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# EDC Client 5.10 Technical Manual

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# 1 Introduction

**Welcome to all EDC Client users!**

The purpose of this manual is to serve both as a guide for installing EDC Client and as a technical reference for all technical aspects of EDC Client.

The install part will show you everything you need to know for setting up EDC Client from scratch.

The technical part is more of a reference for the many different components/modules of EDC Client. This part can be quite useful for the more technically inclined personnel who need to understand more in-depth a specific part of EDC Client.

**Who should read this?**

**This manual is NOT a User's Guide** (If this is what you were looking for, you can find it at ftp://docudatasoft.com/client/manuals ) and hence will not show you how to use the day to day functions that most record center employees would use in order to do their work. It is meant to be used by IT administrators and the likes or whoever performs computer-related maintenance in your business. Basic knowledge of networking and system administration is assumed here.

**Your Feedback**

Your feedback and opinion is very important to us. If you find errors in the document or have suggestions on how to improve it, please feel free to send us your comments at support@docudatasoft.com .

- The DocuData Team

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## 1.1 Conventions used in this manual

This manual was created for both online viewing and print. When references to other topics are made throughout the manual, they are made with hyperlinks to enable you to browse to the referenced topic with a simple click of the mouse.

A page icon with the page number inside is always located to the right of the hyperlink to reference page numbers when the manual is printed. The page icons looks something like this:

In this case it would mean that the referenced topic can be found on page 25 of the manual.

Example: Here is a reference to the start page 106 of the technical guide.

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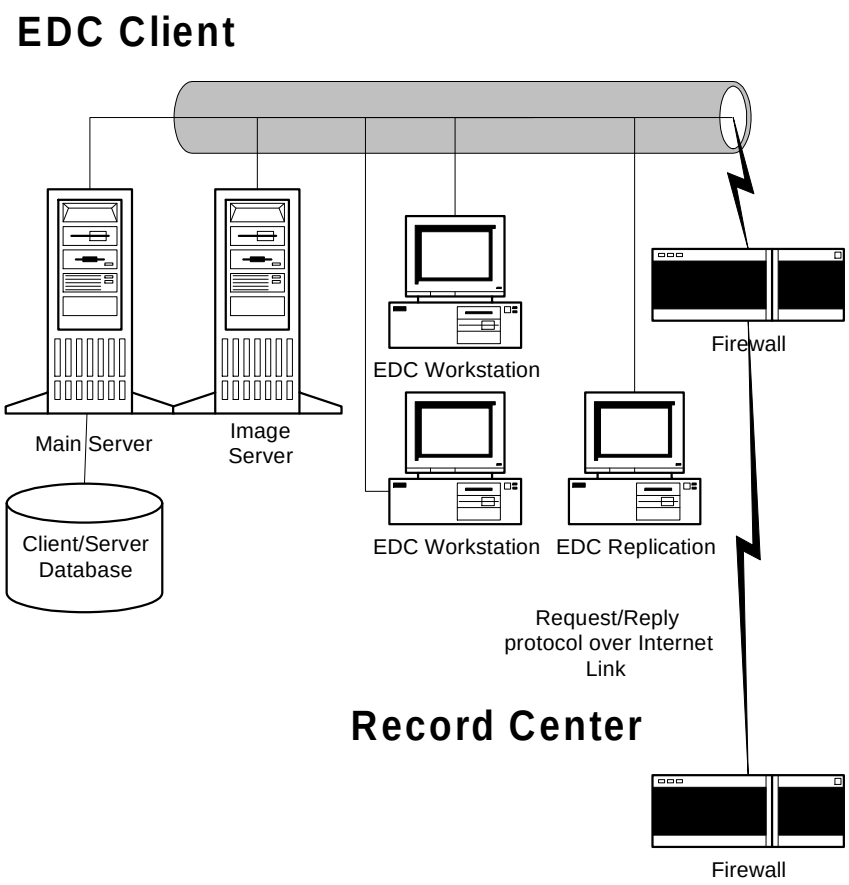
# 2 Install Guide

## 2.1 Architecture

The **EDC Client** software is a complete records management software which offers the ability for a company to be electrically connected with it's record center by an internet link. The organization and the record center both have a copy of the data allowing them to work without being connected by a dedicated line. A process named Replication insures the data synchronization. It uses a client/server architecture to communicate in a transparent way with the record center. Here is an illustration of an **EDC Client** system and the link which it maintains with it's record center. The servers represented in the following illustration are conceptual. All servers can in fact reside on the same machine, it can be a Windows based server or workstation.

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## 2.2 System Requirements

**Technological Architecture**

The Windows based system uses client/server architecture. The clients are Win32 based applications. The Web based system is a multi-tier architecture using AJAX/JSP/Java and XML-RPC web services. The internet browsers supported are:

- Internet Explorer 7 or more.
- Firefox 2 or more.
- Google Chrome, all versions.
- Apple Safari 4 or more.

**Server platforms and operating systems**

Windows 2000/XP/2003/Vista/2008 (EDC and Pervasive), Linux (Pervasive only)

**Workstation and server minimum recommended requirements**

**64 Bit Data Server**
Microprocessor: Athlon64, Opteron, Xeon or other Intel EM64T.
Disk space: 500MB hard disk space for the application & the database engine + Data (average record size - 2k/box, 1.5k/file). NTFS file partition for the database files that will be accessed.
Memory: 2GB or more.

**Web Server**
Microprocessor: Any Dual-core 2GHz or higher CPU will do but Quad-Core is better.
Memory: 2GB or more.

**Workstation**
Operating System 2000 / XP / Vista / Windows 7
Microprocessor Any Dual-core 2GHz or higher CPU will do
Disk Space 250MB hard disk space.
Memory 512MB RAM or better depending on operating system.

**Recommended Bandwidth Between Buildings:** T1 Line or more.

**Bandwidth needed if serving electronic documents and images via ActiveWeb:**

10 Mbit/sec up and down minimum, 100Mbit/sec recommended.

**Communication Protocols**

TCP/IP

**Number of concurrent users**

The database server engine is 6, 10, 20, 50, 100, 250, 500 or an unlimited number of users.
The database workgroup engine is 3 or 5 concurrent users.

**Peripherals**

Thermal printers (with Thermal Transfer Technology, Zebra or Datamax recommended)

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**LPT, USB or Ethernet interface**

Zebra ZM400 (industrial class)
Zebra Z4Mplus (industrial class)
Datamax I-4208 (industrial class)
Zebra S4M (medium class)
All thermal printers supporting WindowsTM drivers

**Bar code scanners**

Wedge scanner: Symbol, PSC, HHP or any other model capable of reading code 39 and 128 barcode labels.

**Handheld**

Opticon PHL1300 (recommended model)
The portable unit is independent, with its' own CPU and operating system. DocuData's newest portable unit features incredible response time and scan accuracy.

**Portable printers**

O'Neil MF 2T & 4T

**Laser printers**

Any WindowsTM supported laser printer

## 2.3 Installation Procedures

This next section will show you how to install EDC Client from scratch. If you already have a working version of EDC Client and just need to update to another version please refer to the Update Guide 101 later in this manual.

There is 3 different installation options for EDC Client. Click on any of the following links to get to the installation instructions.

- Standalone Client Installer 12 (ClientSetup.exe ~ 92Mb)

This is the installer you use if you want to have EDC Client installed as a standalone application to manage your In-House files only. Use this installer if you are **NOT** connected with an external record center. The next 2 installers are used only if you want to be connected to an external record center.

- Client Installer 20 (ClientInstaller.exe ~ 10Mb)

**Note: To use this installer you need a working internet connection (high speed recommended)**
**Note: If you have a firewall in place you need to make sure that TCP ports 11003, 11007 and 11008 are open to the outside world(incoming & outgoing) or the installation will fail miserably!**

This installer is the preferred way of installing EDC Client for interaction with a record center because it

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automatically configures the software and imports the necessary data from the record center directly into the software making it ready for use instantly. This installer is ideal if you have a high-speed internet connection. Not recommended for dial-up connections.

- RC Client Setup (RcClientSetup.exe ~ 91.6Mb)

**Note: If you have a firewall in place you need to make sure that TCP ports 11003, 11007 and 11008 are open to the outside world(incoming & outgoing) otherwise EDC Client won't be able to function properly after the installation!**

This installer is basically the same as the "Client Installer" above except that the data from the record center is not imported automatically by the installer but instead is imported manually by you after the install. This installation method is used mostly in situations where an internet connection is not always available, unreliable or when the data to be imported is too big to be transferred in a reasonable amount of time over the internet.

Wether you choose the "Client Installer" or the "RC Client Setup" the end result is the same as far as the software goes. The only difference is the way it is initially installed.

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### 2.3.1 Standalone Client Installer

This is the installer you use if you want to have EDC Client installed as a standalone application to manage your In-House files only. Use this installer if you are **NOT** connected with an external record center.

Here's the steps for installing EDC Client via the "standalone" Client Installer(ClientSetup.exe ~ 92MB):

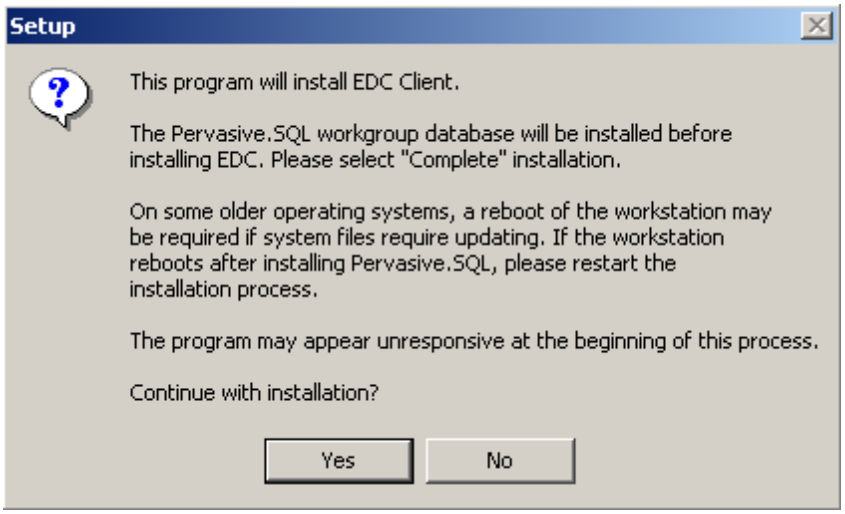
1. If you don't have it already, download the installer with this link:

ftp://docudatasoft.com/client/newsetup/ClientSetup.exe

Also don't forget to get the Customer System Number, Customer Key and Serial Number for the software from us if you don't have it already. You can get it by contacting us either through email (support@docudatasoft.com) or by phone at 1-877-789-2789(Toll Free Anywhere in North America) or +1 514-789-2789(Worldwide).

2. Open/Run the "ClientSetup.exe" file.

If you don't have Pervasive already installed, the setup will install it for you. Here is the message you will get if this is the case:


Setup
This program will install EDC Client.
The Pervasive.SQL workgroup database will be installed before installing EDC. Please select "Complete" installation.
On some older operating systems, a reboot of the workstation may be required if system files require updating. If the workstation reboots after installing Pervasive.SQL, please restart the installation process.
The program may appear unresponsive at the beginning of this process.
Continue with installation?
Yes
No

3. If you already have Pervasive installed or after the step above the EDC Client setup wizard will start like so:

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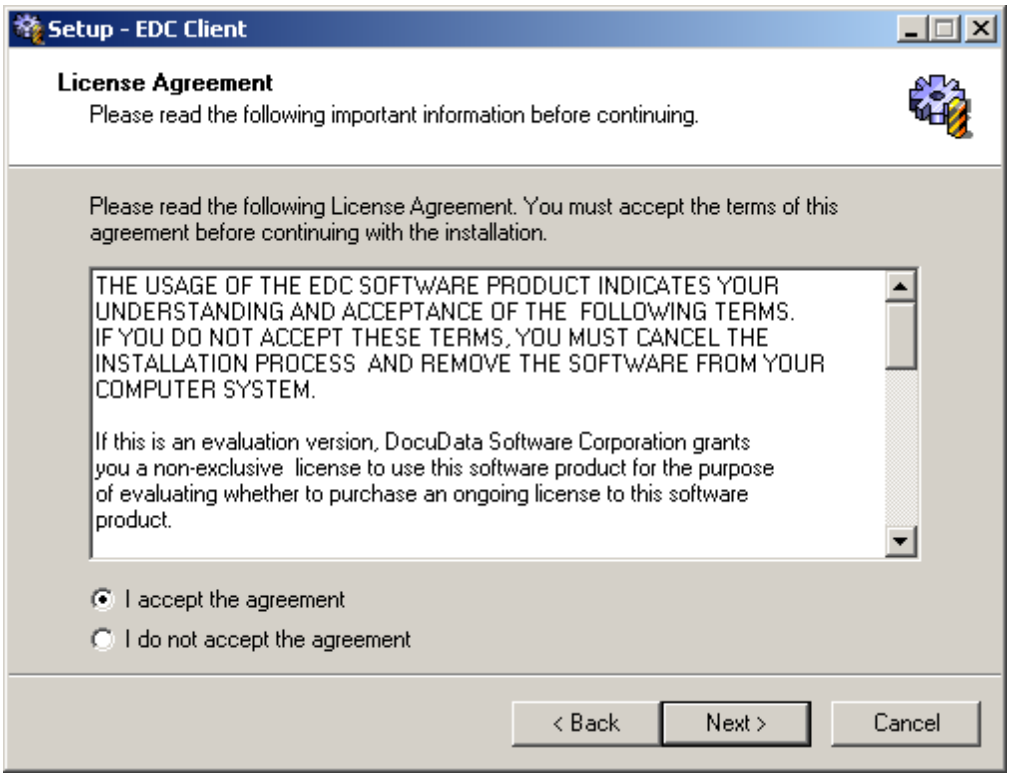
Setup - EDC Client
Welcome to the EDC Client Setup Wizard
docudata
Direct access - Total control
This will install version 5 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

4. Click "Next" to get to the "License Agreement" screen:


Setup - EDC Client
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
THE USAGE OF THE EDC SOFTWARE PRODUCT INDICATES YOUR UNDERSTANDING AND ACCEPTANCE OF THE FOLLOWING TERMS. IF YOU DO NOT ACCEPT THESE TERMS, YOU MUST CANCEL THE INSTALLATION PROCESS AND REMOVE THE SOFTWARE FROM YOUR COMPUTER SYSTEM.
If this is an evaluation version, DocuData Software Corporation grants you a non-exclusive license to use this software product for the purpose of evaluating whether to purchase an ongoing license to this software product.
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

5. Accept the agreement and click "Next" to get to the next screen:

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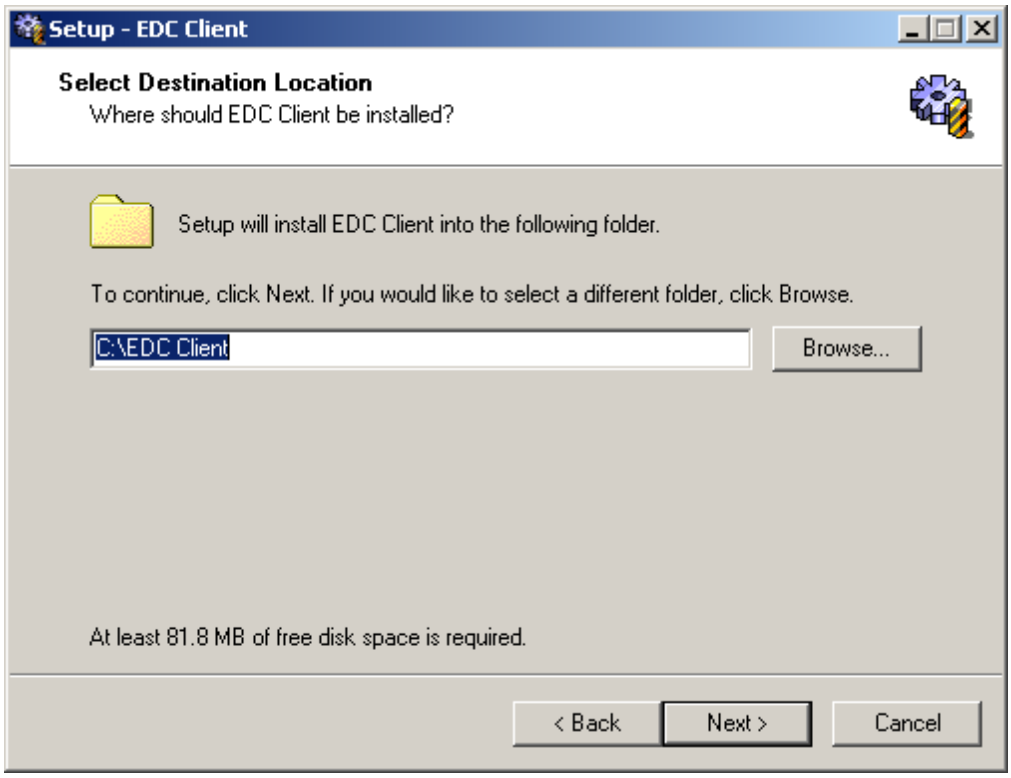
Setup - EDC Client
Select Destination Location
Where should EDC Client be installed?
Setup will install EDC Client into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\EDC Client
Browse...
At least 81.8 MB of free disk space is required.
< Back
Next >
Cancel

Here you can choose another location if you so wish or use the default installation path. I personally chose to use "C:\EDC_Client" as my path because choosing a path with no space in it will make it easier for me in the future if I wish to setup some EDC processes as services. This is not mandatory but useful. Either way you choose won't affect the way EDC works.

6. When you're done click "Next" to proceed to the next step:

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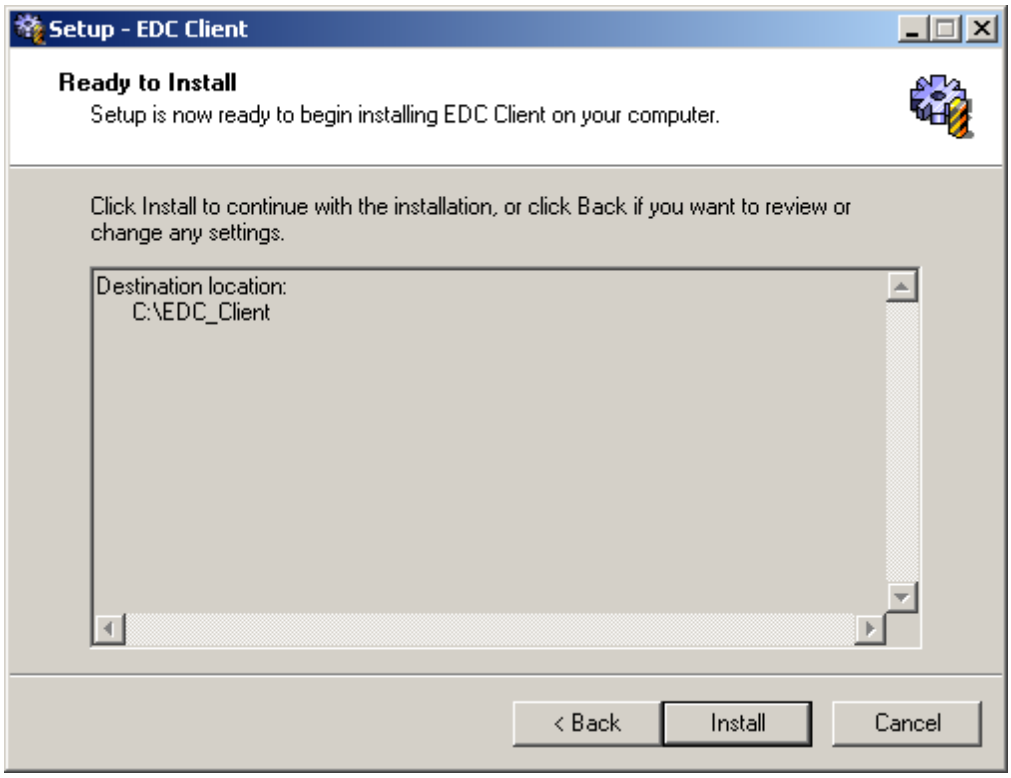
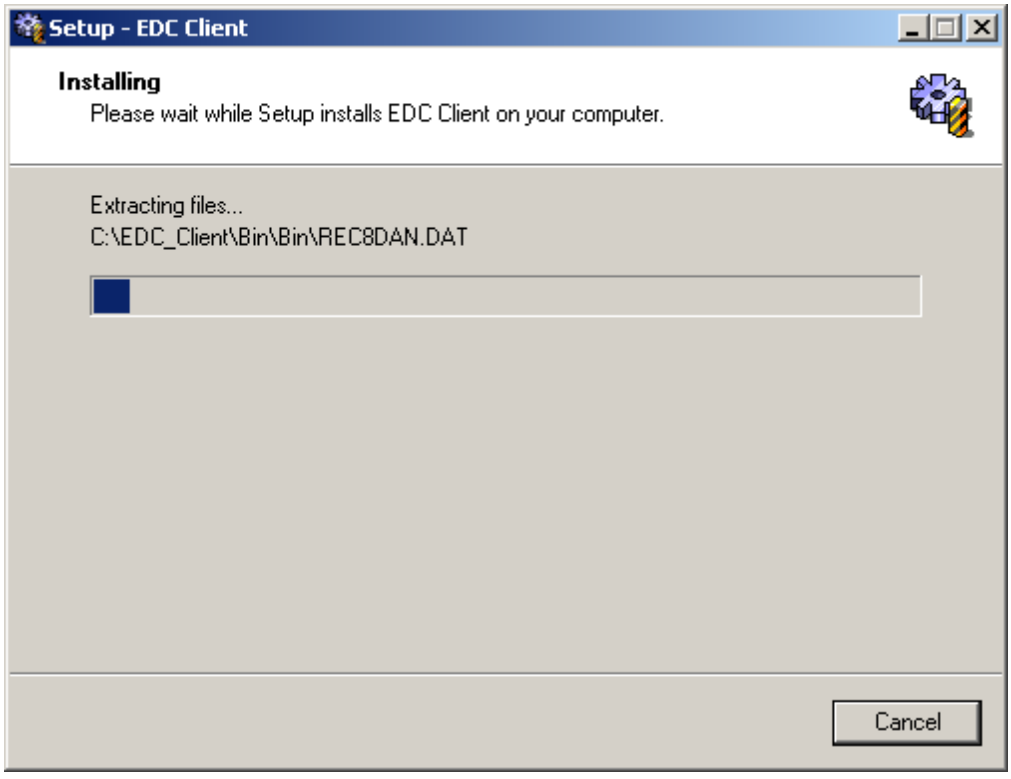

Setup - EDC Client
Ready to Install
Setup is now ready to begin installing EDC Client on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\EDC_Client
< Back
Install
Cancel

7. The setup is now ready to install EDC Client. Click the "Install" button to proceed. The setup will then extract and copy the files in the appropriate location:

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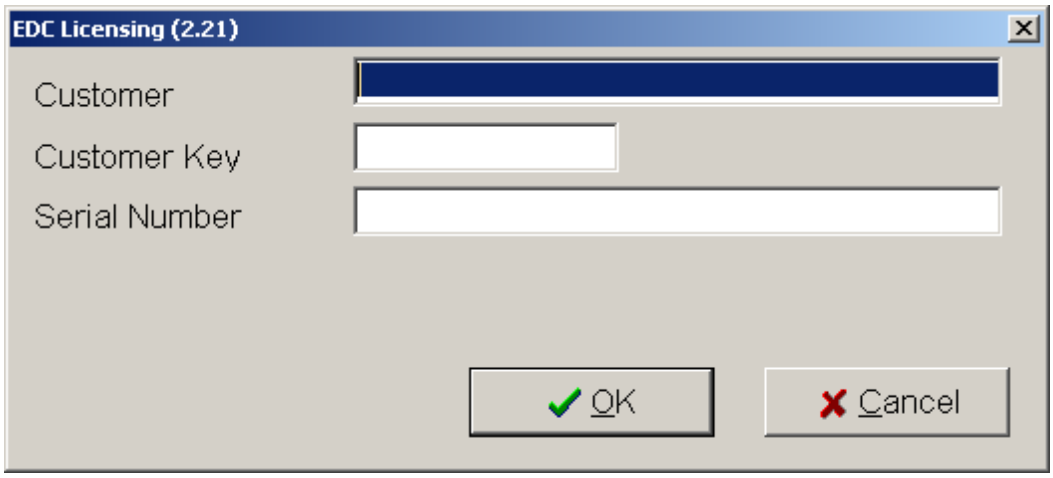
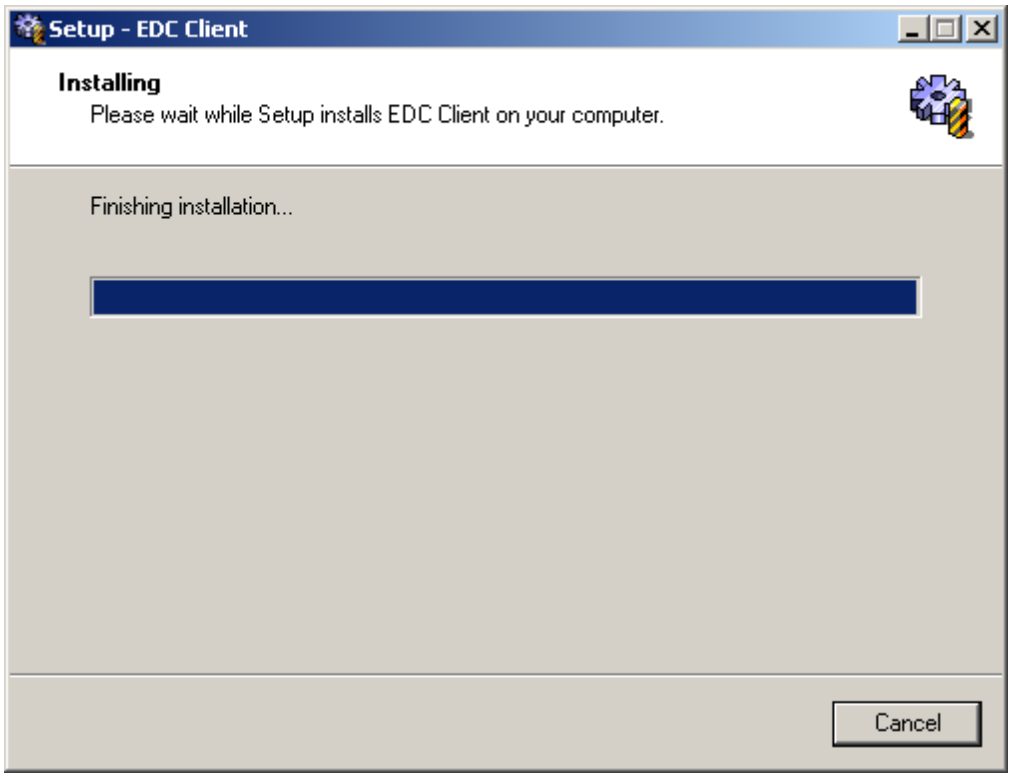
8. Once all the files have been copied to their rightful location, the EDC Licensing Screen will then open:




Here you need to enter the Customer System Number, Customer Key and Serial Number you obtained from us in step 1 above.

**Note: The serial number is case-sensitive.**

9. Once the numbers are entered click the "OK" button to continue. The installation will then complete like so:




10. After the installation is completed the setup will prompt you a screen like so:

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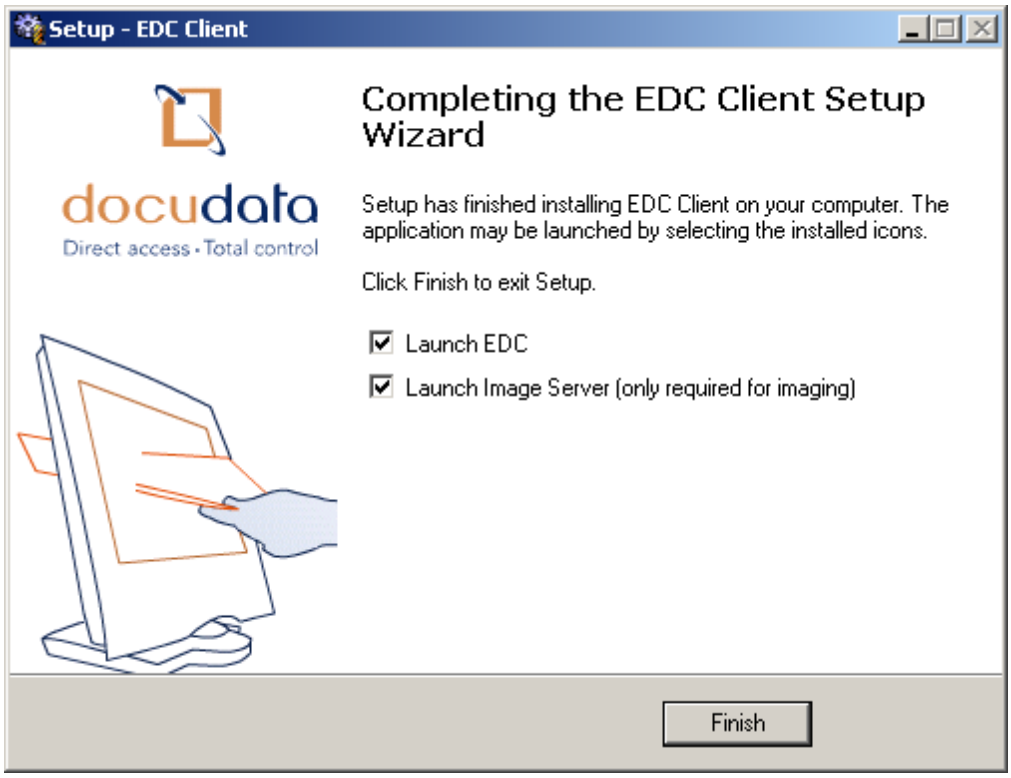
Setup - EDC Client
Completing the EDC Client Setup Wizard
docudata
Direct access - Total control
Setup has finished installing EDC Client on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Launch EDC
Launch Image Server (only required for imaging)
Finish

11. Here you can choose to Launch EDC Client and the Image Server straight away. I suggest you start both of them now to validate that the installation worked as planned. Once started you will get to the login screen of EDC Client like so:

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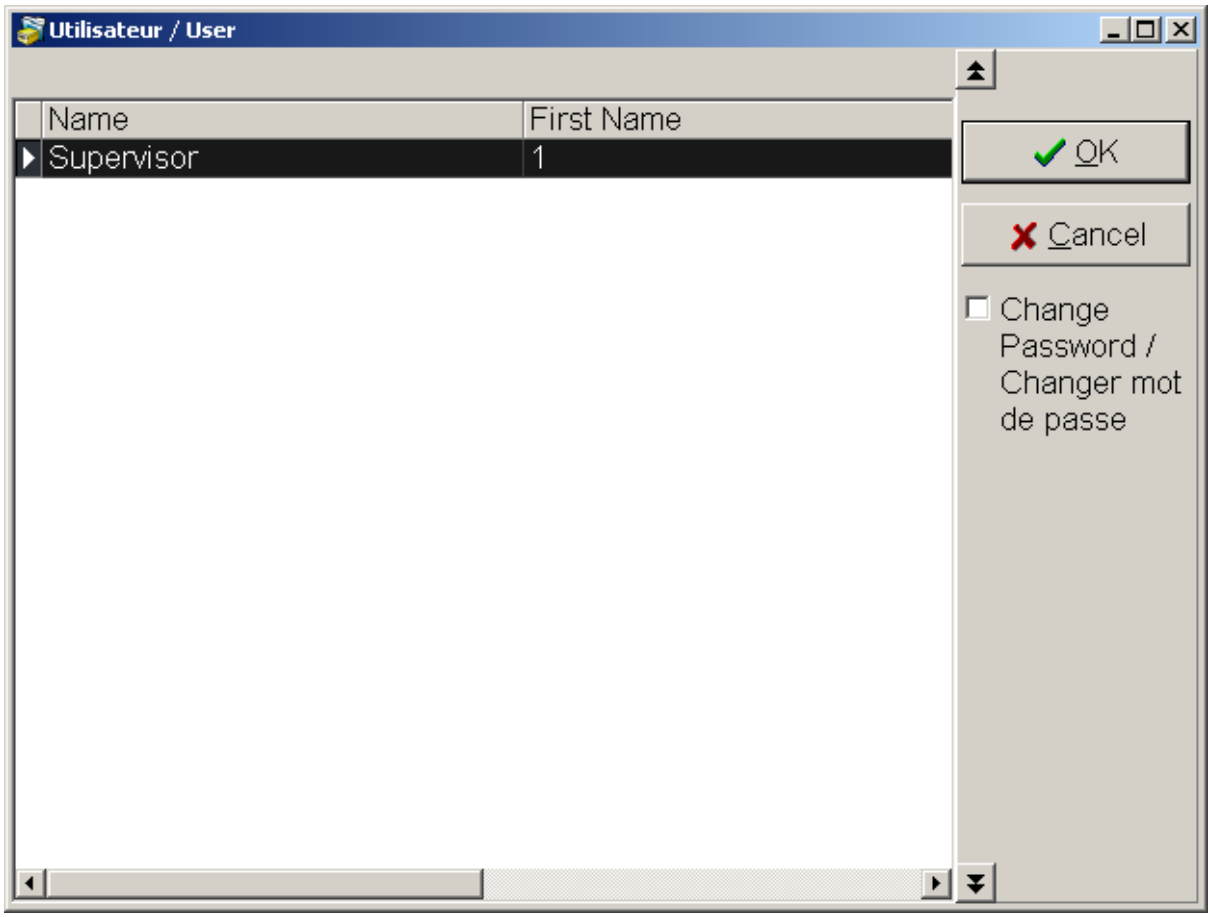
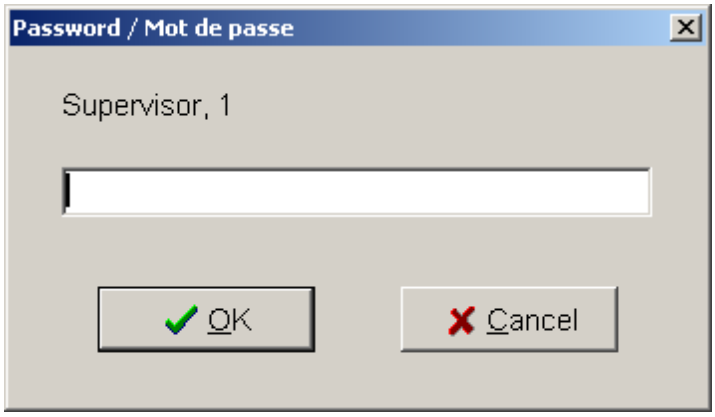



12. A "Supervisor" account is already installed in the system for you initial login. Click on the "OK" button to enter EDC Client. A window will then open prompting you to enter a password like so:




The initial password for the supervisor account is "mainkey" so use this to login this first time.

13. Once logged in the main screen of EDC Client will open like so:

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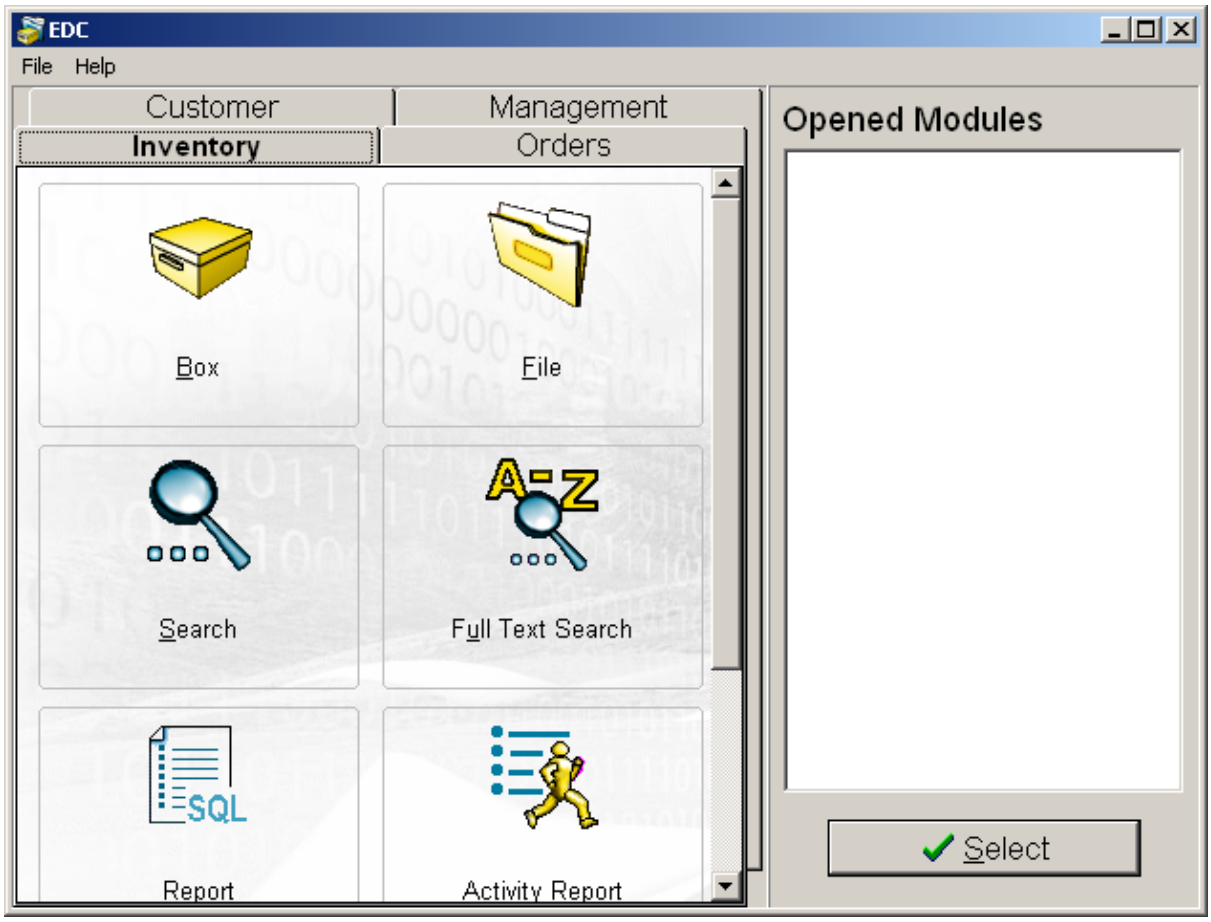


That's it! EDC Client in "standalone" mode is now installed. Congratulations!

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### 2.3.2 Client Installer

Client Installer is a wizard-type installation software to install EDC Client on the server that will act as the database server.

This section explains how to deploy the EDC Client software with the Client Installer.

The Client Installer is an advanced distributed installation program which installs the EDC Client software for the client of a record center. It requires little setup time at the record center and has the advantage of being a small online installation file.

In short, the Client Installer performs the following action:

- Downloads necessary files from the record center
- Installs a DBMS called Pervasive.SQL, if needed
- Installs the EDC Client software
- Obtains the client's data from its record center
- Obtains a trial license from DocuData

The Client Installer is a standalone executable which does not depend on any external DLL, ActiveX control, or any run-time environment like VB, Java, or .NET. It must be simply downloaded and run. The user must have administrator rights on the server where the installation is being performed.

The Client Installer can be download via FTP at:
ftp://docudatasoft.com/client/installer/ClientInstaller.exe

It is highly recommended that the client has a high speed internet connection.

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#### 2.3.2.1 Quick Installation of Client Installer

It is recommended to read all of the Client Installer section, but if you still decide to install EDC Client as quickly as possible, the following text will guide you.

1. Ensure that the firewall will allow connections to 205.150.168.114:11007 and the record center's server (default port: 11003)
2. Install EDC Client by running Client Installer using information provided by the record center.
3. An EDC Client shortcut will appear on the desktop. A restart may be required if EDC Client does not start properly when double-clicking this icon.
4. Share the EDC installation folder
5. Create a shortcut on each workstation pointing to the remo32.exe executable on the bin directory of the EDC server.

What is installed:

- EDC Client (Shortcut on desktop)
- Replication (Startup group)
- Image Server (Startup group)

For solutions to problems, more extensive explanations, or more installation options, please go through the entire section of Client Installer 20.

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#### 2.3.2.2 How Client Installation Process Works

Here is a more detailed look at the client installation process.

- A check is done for administrator rights on the workstation where the *ClientInstaller.exe* program is executing.
- An outbound TCP/IP connection is establish with the record center, at the address and port specified by the user.
- The setup package is downloaded from the record center.
- Microsoft Visual C++ Runtime files are installed if required. This is required by Pervasive.SQL. A reboot may be required on older Windows versions. If a reboot occurs, the installation process needs to be restarted.
- The EDC programs are installed.
- The client's database is downloaded from the record center.
- Pervasive.SQL is installed, if needed
- A trial license is obtained from DocuData which activates all EDC Client features, including EDM (electronic document management).

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#### 2.3.2.3 Firewall Settings for Installation

The firewall should allow outgoing connections to services.docudatasoft.com:11007 and the record center's server (default port: 11003). More ports may need to be opened later, as described in Ports Used for Replication 46 and Port Used for the Image Server 57.

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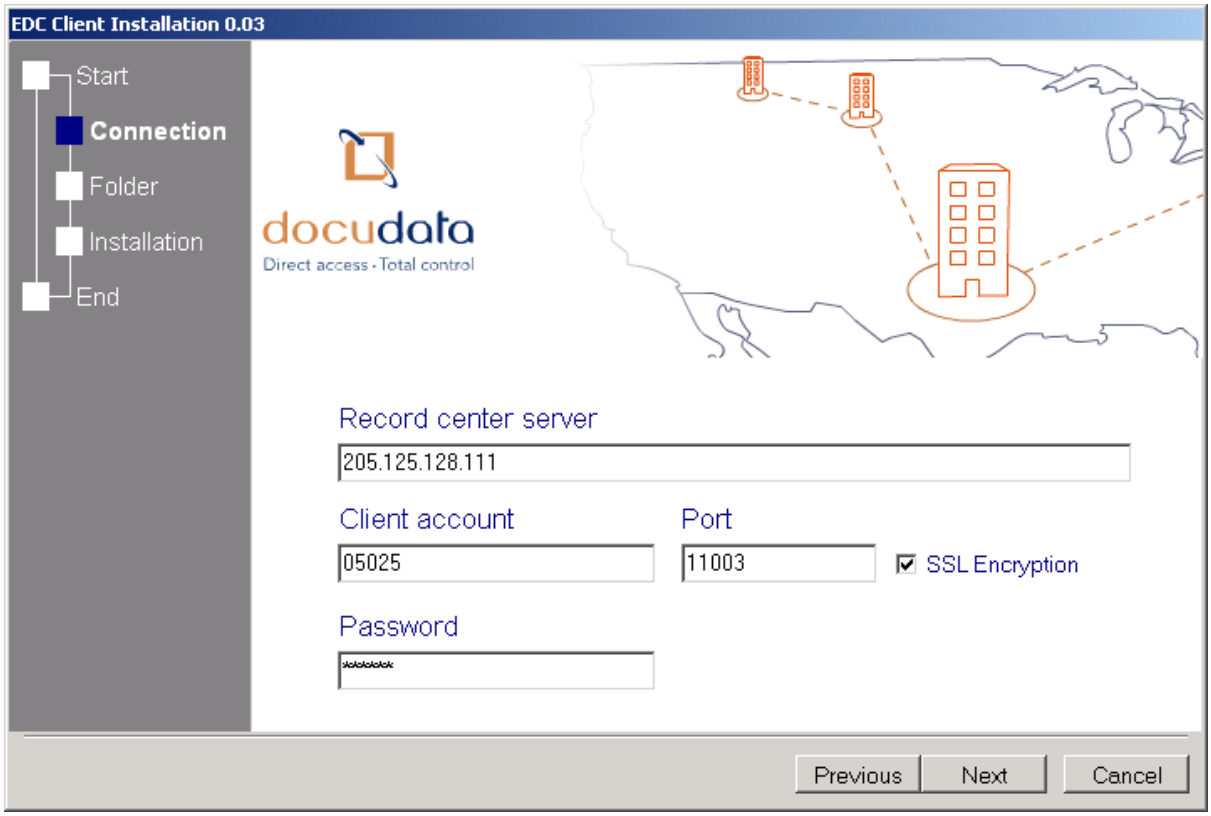
### 2.3.2.4 Running Client Installer

#### Connection information

Please ensure that the firewall allows required connections, as described in Firewall Settings for Installation 23.

Run the Client Installer on the computer that will serve as server. You should not install it via a remote desktop connection.

After the language is selected and the welcome screen has been displayed, the Connection step will prompt the user with connection information. The value for these required fields must be provided to the client.




The *Record center server* is the IP address or server name where the *EdcRpc.exe* process is executing. This must be identical to the value configured in the System Information module in the *RPC Server at RC* fields.

The *Port* is the TCP port number where the *EdcRpc.exe* process is executing. This must be identical to the value configured in the System Information module in the *RPC Server at RC* fields.

The *SSL Encryption* indicates if the communication with the record center will be encrypted. This must be identical to the value configured in the System Information module in the *RPC Server at RC* fields.

The *Client account* is the account number (customer key) as defined in the EDC record center software.

The *Password* is the password that is defined for the customer in the Customer module of EDC record

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center software.

**Installation Folder**

After the connection is successful, the installation wizard will request the Installation Folder. The default value is on the local workstation. If the chosen folder does not exist, it will be created. It is possible to install in an existing folder, but it must be empty.

After the installation, it will be important to share the data files in order to deploy EDC Client on other workstations. It is recommended to share the entire installation folder.

**Installation Process**

The EDC Client software will then be installed in the chosen folder. The installation time will be a factor of the Internet connection speed, and the size of the client's inventory at the record. It will generally vary from a few minutes to a few hours.

After the installation:

- A program group will have been added to the Start menu.
- The replication and image server will be added to the Startup group.
- An icon to EDC Client is added to the Desktop.
- Replication is active immediately, so the client can order items and the client database will be synchronized with the record center.

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### 2.3.2.5 Obtaining a Permanent License

The Client Installer configures a trial license that is valid for 3 months. If the client desires to continue to use EDC Client a permanent license for EDC and Pervasive.SQL is required.

The record center will require the following in order to generate the permanent license:

- The EDC Client version 26 desired.
- The number of concurrent users needed.

**Deploying EDC in production environments**

After the trial period, other factors in the EDC deployment at the client site can be considered.

- It may be desirable to use Pervasive.SQL server engine for higher scalability and performance.
- The database may be migrated to another server for backup, performance, security reasons.
- Installation of the EDC ActiveWeb to offer web access to the EDC Client database.

**EDC Client versions**

**SBF (Semi-Active Box & File)**

The SBF software version is designed to identify, track, store, retrieve and manage both files and boxes located off-site at a record storage facility. With EDC Client Software, you have over 40 metadata information fields to describe and identify an item contents, perform a full text search to help locate their whereabouts, track all changes and "touches" and easily create SQL reports using all data fields. You can also subdivide boxes into as many individual files as you wish and establish a specific retention schedule by box or file type.

**SA (Semi-Active & Active)**

The SA software version is similar to the SBF Software version described above. In addition, it will also identify, track, store, retrieve and manage both files and boxes off-site at a record storage facility and **on-site** at your location. This is designed for active circulation of both files and boxes on and off your premises. The software includes both in-house retention and circulation schedule of all boxes and files.

**SAI (Semi-Active, Active & Imaging)**

The SAI software version is designed with the same features described above in SA and SBF versions, with the added feature of scanning files into an **imaged** format. You can now identify, track, store, retrieve and manage physical and imaged documents right down to the individual page. Our software allows you to index, OCR or zone OCR (Optical Character Recognition) of all imaged documents including performing Boolean and full text searches.

**SAE (Semi-Active, Active & Electronic Data Management)**

The SAE software version is designed with the same features as SAI and SA as described above, with the added capability of managing all your electronic documents (emails, voicemails, Word, Excel, PDF's etc.). SAE enables you to easily create and manage electronic file folders for your electronic documents so all qualified personnel can access these documents, check them out for modifications,

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track and store all previous versions. This is a very complete document management solution that allows organizations the ability to access, share and manage all their physical and electronic documents together.

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#### 2.3.2.6 Installing Replication

The Client Installer automatically installs replication with a shortcut in the Startup group, which should start replication anytime a user is logged in. The EDC Replication is the part of the EDC system which allows data synchronization between a customer and its record center. If the computer running replication is to stay on without a user logged in, replication should be installed as a service.

More information on replication can be found in the section Replication 129.

Installation instructions can be found in the section Installing and Testing Replication 45.

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#### 2.3.2.7 Installing the Image Server

The Client Installer automatically installs the image server with a shortcut in the Startup group, which should start anytime a user is logged in. The Image Server is responsible for the storage and access of digital versions of documents found in the File module. If the computer running the image server is to stay on without a user logged in, the image server should be installed as a service.

More information on the image server can be found in the section Imaging 135.

Installation instructions can be found in the section Installing and Testing the Image Server 55.

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#### 2.3.2.8 Configuration of EDC Client

**EDC Client configuration file**

The configuration file is used by all EDC Client components. By default, the name of this file is dc.cfg, but it can be renamed if the executable is started with the `cfgfile=xxx` parameter, where `xxx` is the path and filename of the configuration file.

How an executable finds the configuration file

- When an EDC Client executable is run with a `cfgfile=xxx` parameter, it searches for the configuration file at the path and filename specified by `xxx`.
- When an EDC Client executable is run without a `cfgfile=xxx` parameter, it searches for a configuration file named dc.cfg in the "Start in" directory. If the executable is run by double-clicking it from Windows Explorer, the "Start in" directory is the executable's directory.

How to edit a configuration file

Even if the configuration file can be edited using a text editor, it is recommended to use DcSetp32.exe. This program will search for a configuration file as specified above, in Configuration of EDC Client 30, and open if for editing.

The following dialog box should appear. Each field is described below.

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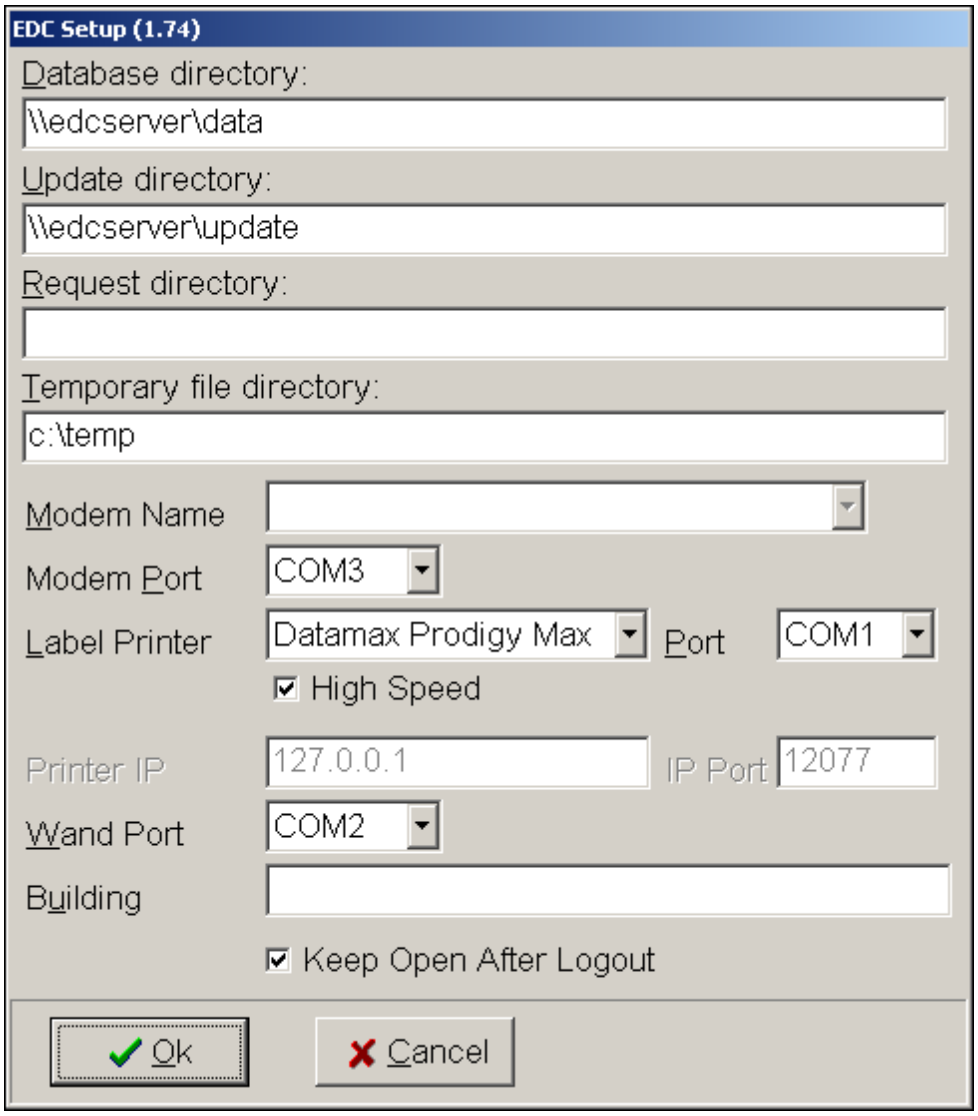


| | |
|---|---|
| Database directory | The EDC Client data files are located here. |
| Update directory | This is where the update package should be stored for an upgrade. Only the server needs to have this configured, since normally, the updated executables are copied to the each workstation if need be. |
| Request directory | This setting is deprecated. This directory was used for the older replication. |
| Temporary file directory | This is a directory where temporary files are created. Temporary database tables are not created here. This directory should be a local one for performance reasons. |
| Modem Name, Port | This setting is deprecated. This is the modem model and computer port used to communicate with the modem. In the past, the modem was used for replication. |
| Label Printer, Port, High | The label printer and port are the thermal printer model and computer port |

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| | |
|---|---|
| Speed | used to communicate with the printer. This label printer is used to print barcodes. Some printers work in a "high speed" mode that differs from printer-to-printer. This setting should be tested before being used. |
| Printer IP, Port | If the label printer is set to "Remote Printer", Printer IP and Port specifies how to reach the printer. |
| Wand Port | This is the computer port used to communicate with a PDT |
| Building | This option is not used for EDC Client. |
| Keep Open After Logout | When checked, this option restarts EDC Client after the main window is closed. This option is useful on workstations used by many employees. |

**Configuring the EDC Client application**

In EDC Client, the System Information module, accessible from the Management tab, holds the EDC Client deployment information. This module is divided into three sections: the first is unnamed, the second is RPC Servers, and the last is Imaging. As the administrator, only the last two sections are relevant.

RPC Servers

This section contains information required for replication, which is the act of synchronizing information between a client and the record center. See EDC Client Replication Configuration 45 for more information.

Imaging

This section contains information required for imaging, which is the component of EDC that accesses and stores digital versions of documents, delivery slips, and return slips. See EDC Client Image Server Configuration 55 for more information.

**Important Note**

In this same section you will find a setting for "Documents Directory". Even though this setting only applies to version SAE of the software, you still have to set it to a valid path. By default the documents directory (called EDM) is located directly under the "data" directory in EDC Client. For example on most machine, it is located at:

C:\EDC Client\Data\EDM

Note that if EDC Client is installed in a networked environment, the path will usually be a UNC path instead such as:

\\server\EDC Client\Data\EDM

Note also that each "authorized user" also has to have a valid "working directory" setup. This is setup from the "authorized user" module and can be any directory that the user has write access to.

For more information on this please contact support@docudatasoft.com

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#### 2.3.2.9 Database Server's Data Source Name

All EDC Client modules except for one use Pervasive's transactional engine, which does not require this extra installation step. However, the SQL Report and the Pervasive Control Center (a database navigation utility) use ODBC to connect to the database via a DSN. See the Install the data source name (DSN) on the database server section for configuration instructions.

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#### 2.3.2.10 Deploying EDC Client

Since EDC Client does not use the registry, a user can run any executable on a computer with Pervasive.SQL as long as the user has access to the executables, the configuration file (dc.cfg), and the data and temporary directories that the latter references. Therefore, the binaries can be accessed from a local drive, mapped drive, UNC path... It is suggested to place shortcuts to EDC Client in the user's Desktop directory.

Using a separate, local copy of the executables could minimize bandwidth utilization upon starting up a program, but it requires new executables to be deployed every time the software is upgraded. A batch file or script could cleverly eliminate this drawback.

When double-clicking an executable via Windows explorer, the executable's home directory is the path it is located in. When running the executable from a shortcut, this is not so. Therefore, you must either:

- pass the `cfgfile=xxx` parameter when running the executable, where `xxx` is the full path and filename of the configuration file, or
- set the "Start in" directory to the path where the configuration file is located.

Note that the first method mentioned above specifies the full path and filename of the configuration file, allowing for the configuration file to be named differently from the default dc.cfg. Only the path to the configuration file can be specified when using the second method; therefore, the configuration file is assumed to be the default name, dc.cfg.

A system DSN on each workstation must be created in order to use the SQL report module. See Install the data source name (DSN) on the workstation for instructions.

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### 2.3.3 RC Client Setup

This installer is basically the same as the "Client Installer" above except that the data from the record center is not imported automatically by the installer but instead is imported manually by you after the install. This installation method is used mostly in situations where an internet connection is not always available, unreliable or when the data to be imported is too big to be transferred in a reasonable amount of time over the internet.

Here's the steps for installing EDC Client via the RC Client Setup Installer(RcClientSetup.exe ~ 91.6MB):

**Note: If you have a firewall in place you need to make sure that outgoing TCP ports 11003 (Record Center's RPC Server) and 11007(DocuData's RPC Server) are open to the outside world otherwise EDC Client won't be able to install or function properly!**

1. If you don't have it already, download the installer with this link:

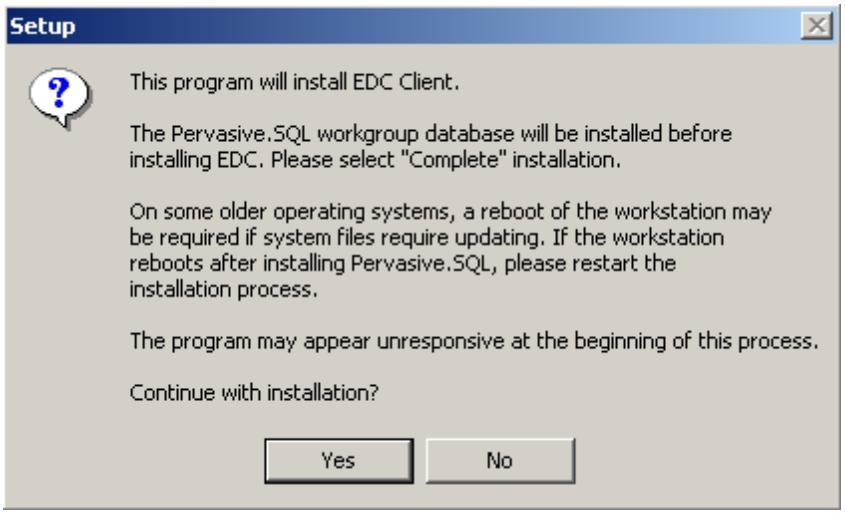
ftp://docudatasoft.com/client/RcClientSetup/RcClientSetup.exe

**Note: Along with the installer you also need to have a copy of the customer's data as exported from the record center's database.**

Also don't forget to get the Customer System Number, Customer Key and Serial Number for the software from us if you don't have it already. You can get it by contacting us either through email (support@docudatasoft.com) or by phone at 1-877-789-2789(Toll Free Anywhere in North America) or +1 514-789-2789(Worldwide).

2. Open/Run the "RcClientSetup.exe" file.

If you don't have Pervasive already installed, the setup will install it for you. Here is the message you will get if this is the case:


Setup
This program will install EDC Client.
The Pervasive.SQL workgroup database will be installed before installing EDC. Please select "Complete" installation.
On some older operating systems, a reboot of the workstation may be required if system files require updating. If the workstation reboots after installing Pervasive.SQL, please restart the installation process.
The program may appear unresponsive at the beginning of this process.
Continue with installation?
Yes
No

3. If you already have Pervasive installed or after the step above the EDC Client setup wizard will start like so:

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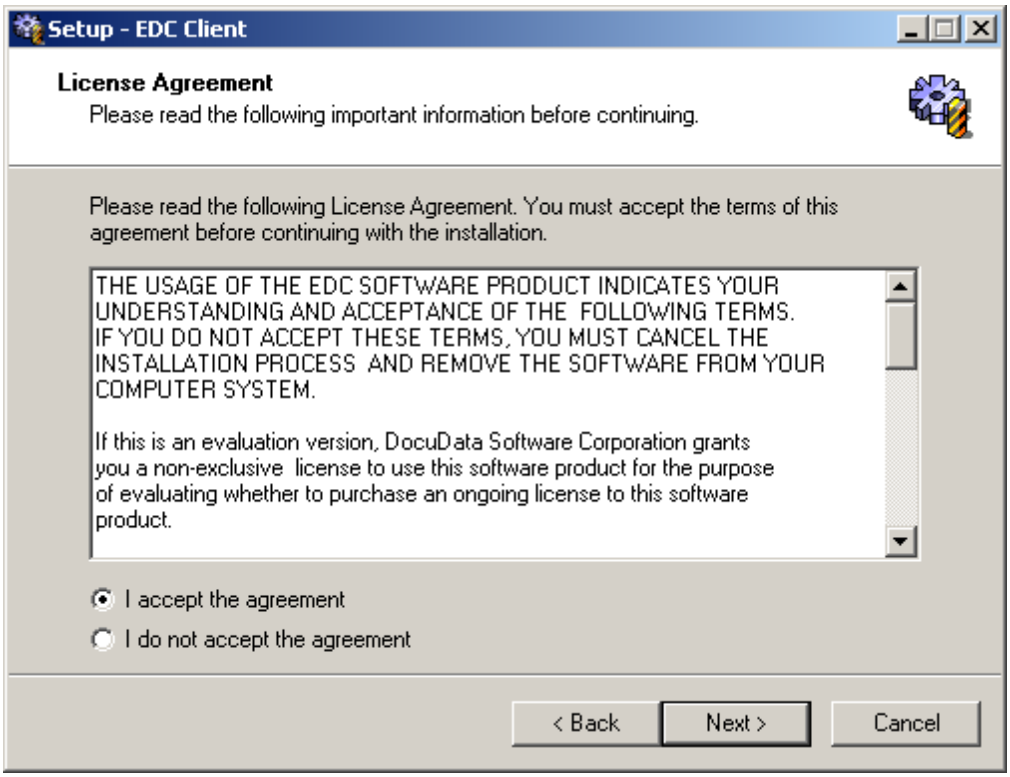
Setup - EDC Client
Welcome to the EDC Client Setup Wizard
docudata
Direct access - Total control
This will install version 5 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

4. Click "Next" to get to the "License Agreement" screen:


Setup - EDC Client
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
THE USAGE OF THE EDC SOFTWARE PRODUCT INDICATES YOUR UNDERSTANDING AND ACCEPTANCE OF THE FOLLOWING TERMS. IF YOU DO NOT ACCEPT THESE TERMS, YOU MUST CANCEL THE INSTALLATION PROCESS AND REMOVE THE SOFTWARE FROM YOUR COMPUTER SYSTEM.
If this is an evaluation version, DocuData Software Corporation grants you a non-exclusive license to use this software product for the purpose of evaluating whether to purchase an ongoing license to this software product.
I accept the agreement
I do not accept the agreement
< Back
Next >
Cancel

5. Accept the agreement and click "Next" to get to the next screen:

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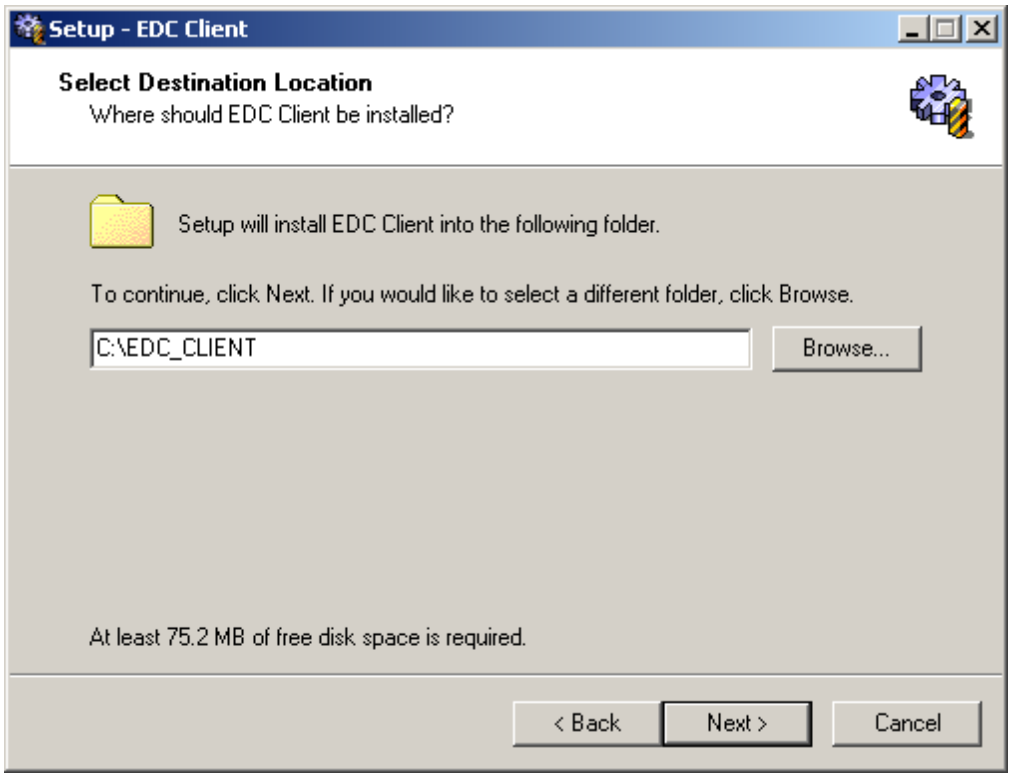
Setup - EDC Client
Select Destination Location
Where should EDC Client be installed?
Setup will install EDC Client into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\EDC_CLIENT
Browse...
At least 75.2 MB of free disk space is required.
< Back
Next >
Cancel

Here you can choose another location if you so wish or use the default installation path. I personally chose to use "C:\EDC_Client" as my path because choosing a path with no space in it will make it easier for me in the future if I wish to setup some EDC processes as services. This is not mandatory but useful. Either way you choose won't affect the way EDC works.

6. Next the setup will ask you the location of the exported client database:

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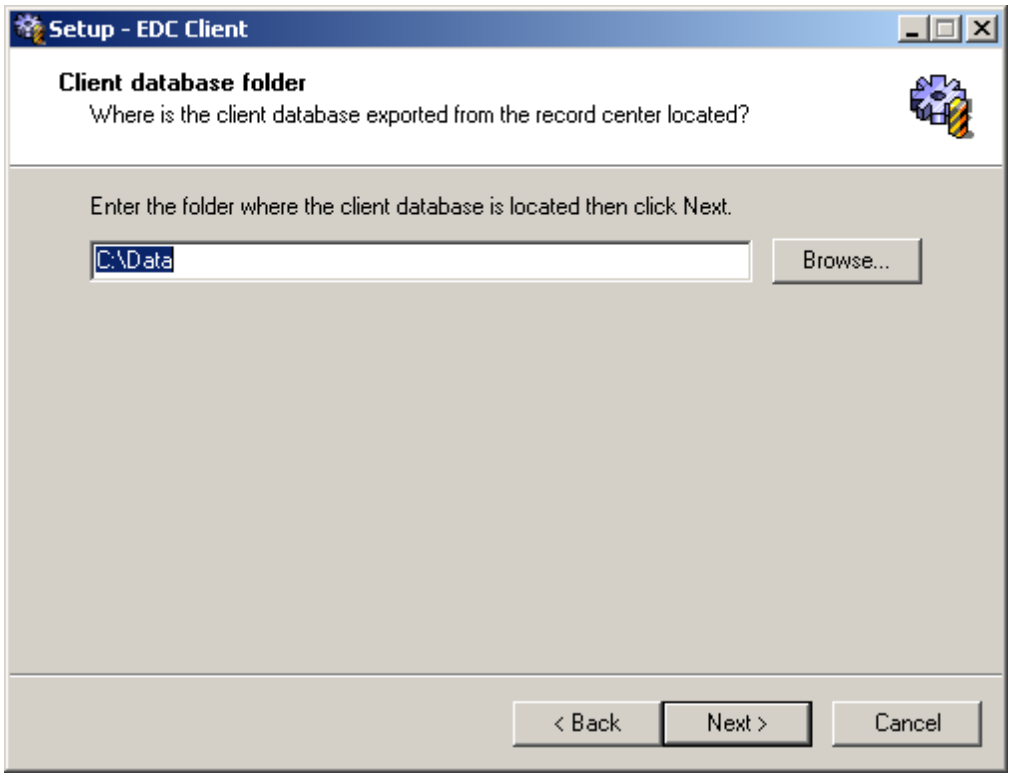
Setup - EDC Client
Client database folder
Where is the client database exported from the record center located?
Enter the folder where the client database is located then click Next.
C:\Data
Browse...
< Back
Next >
Cancel

Here you can choose any path you wish but we recommend you use a path devoid of space and special characters.

7. Click "Next" to continue. You will see this screen:

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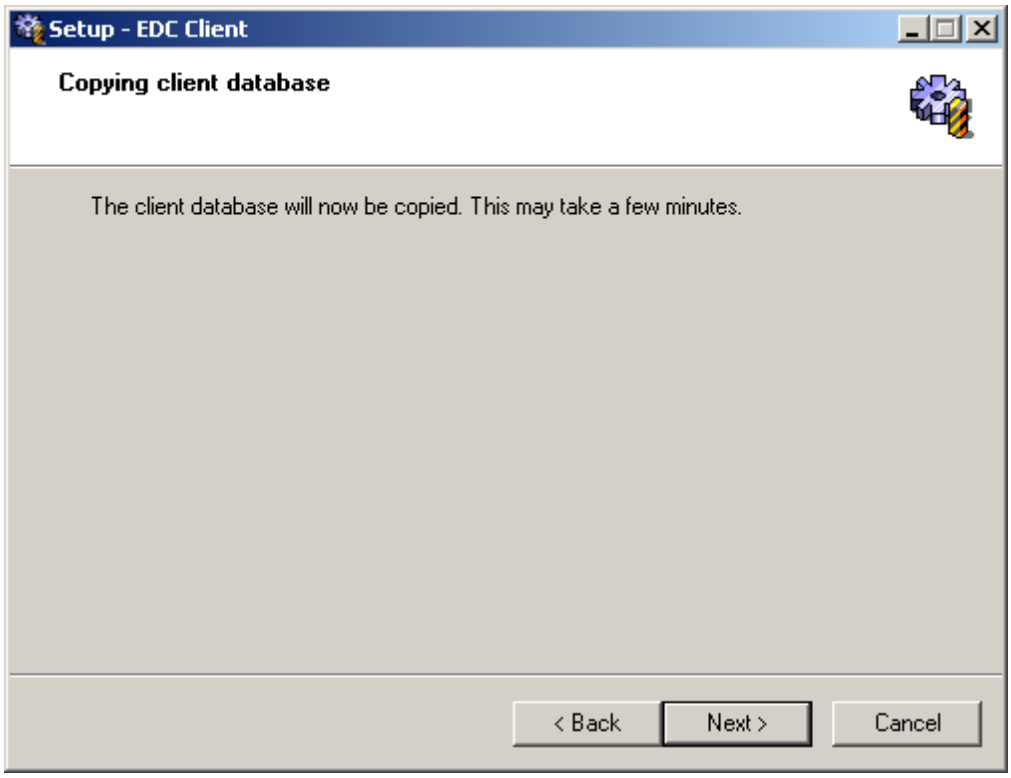
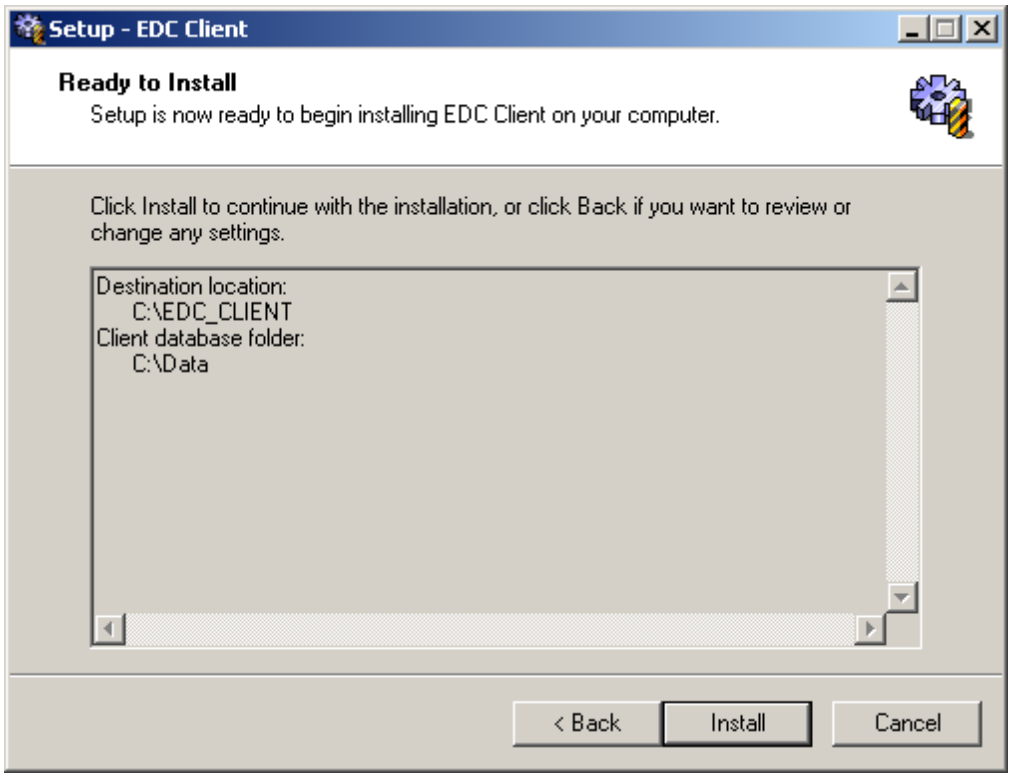



8. Click "Next" again. You will see this:


Setup - EDC Client
Ready to Install
Setup is now ready to begin installing EDC Client on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\EDC_CLIENT
Client database folder:
C:\Data
< Back
Install
Cancel

9. The setup is now ready to install EDC Client. Click the "Install" button to proceed. The setup will then

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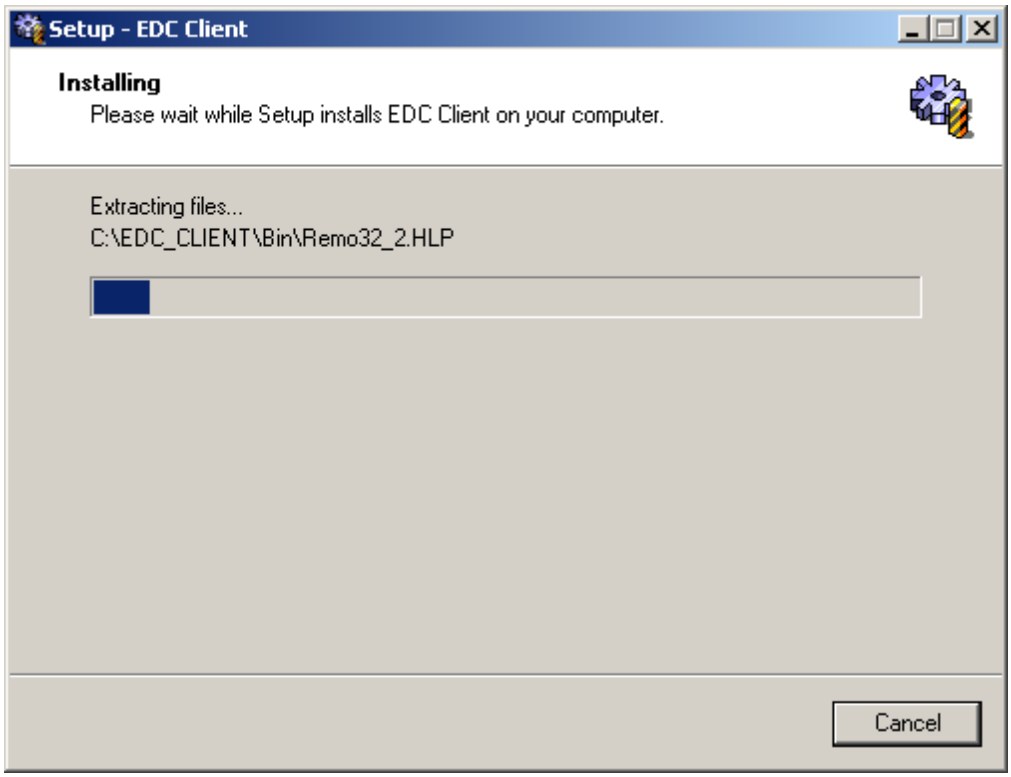
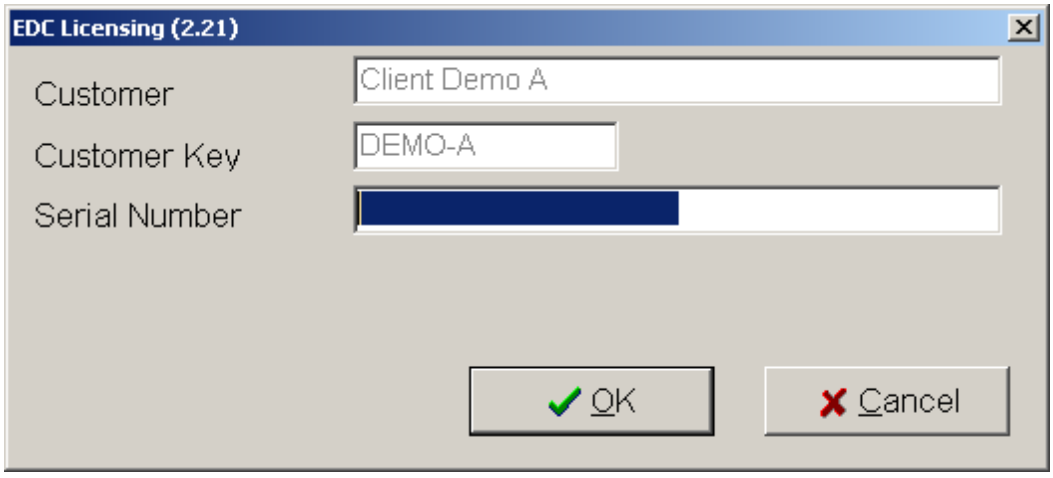
extract and copy the files in the appropriate location:




10. Once all the files have been copied to their rightful location, the EDC Licensing Screen will then open:




11. Here you need to enter the Customer System Number, Customer Key and Serial Number you obtained from us in step 1 above.

**Note: The serial number is case-sensitive.**

12. Once the numbers are entered click the "OK" button to continue. The installation will then complete like so:

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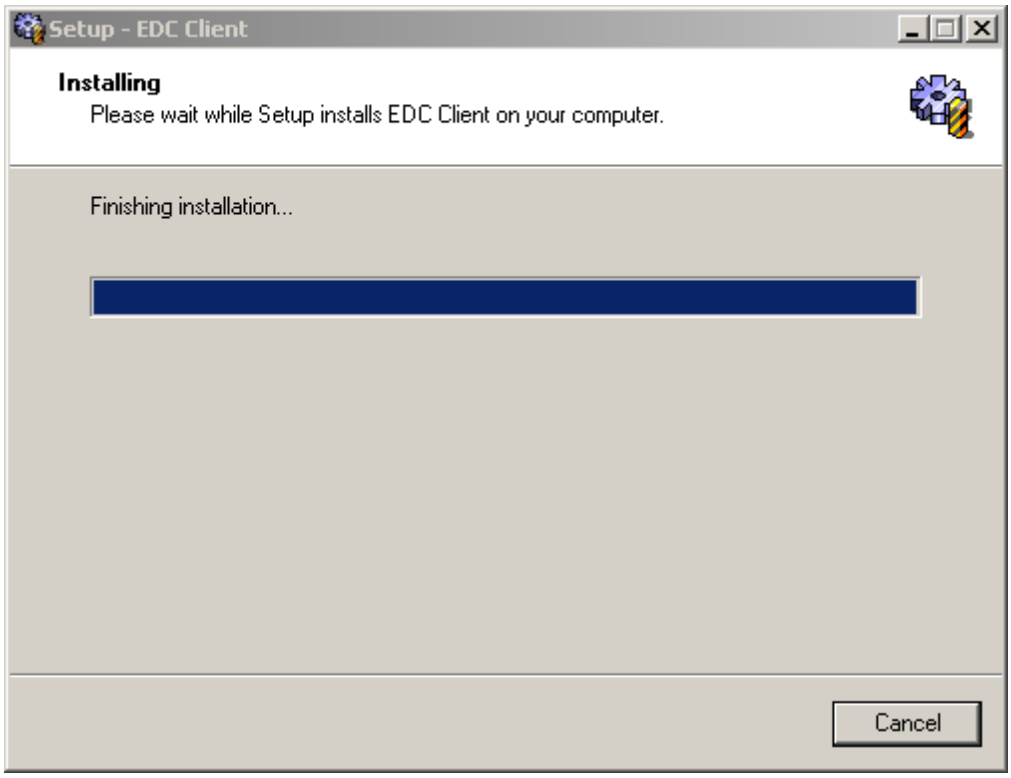
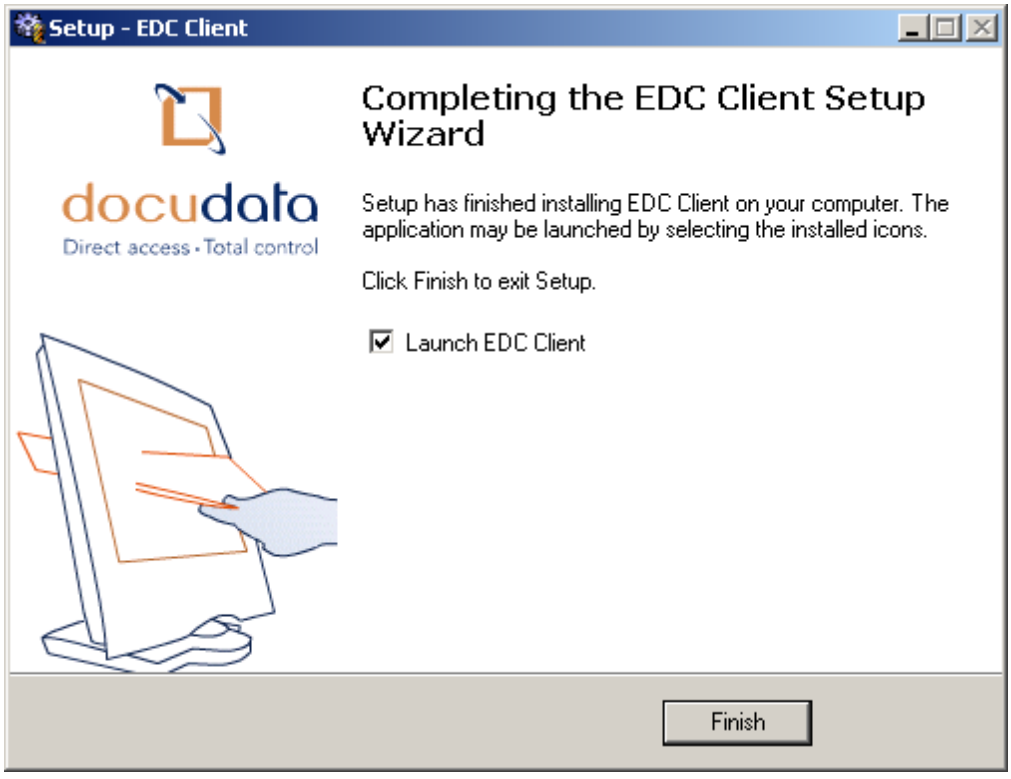



13. After the installation is completed the setup will prompt you a screen like so:


Setup - EDC Client
docudata
Direct access · Total control
Completing the EDC Client Setup Wizard
Setup has finished installing EDC Client on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Launch EDC Client
Finish

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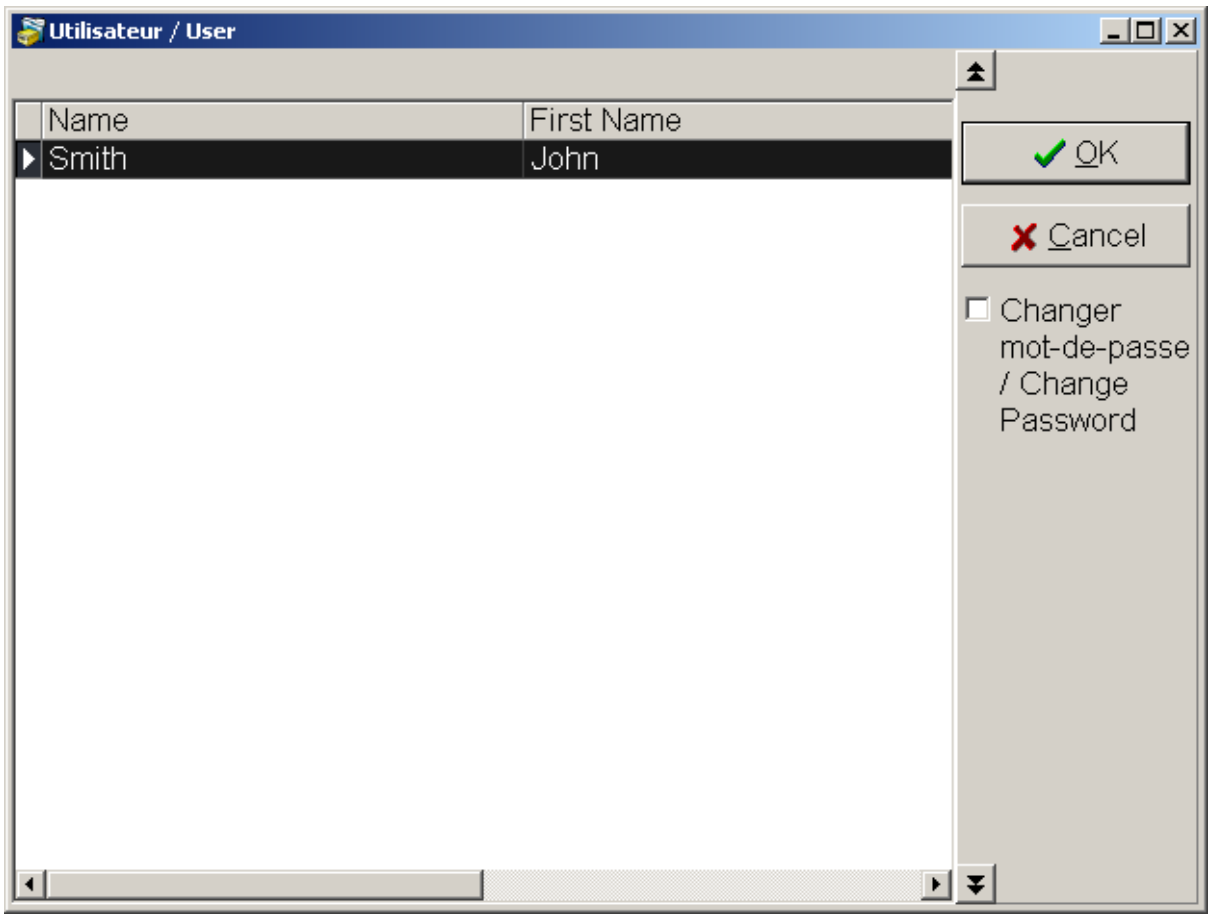
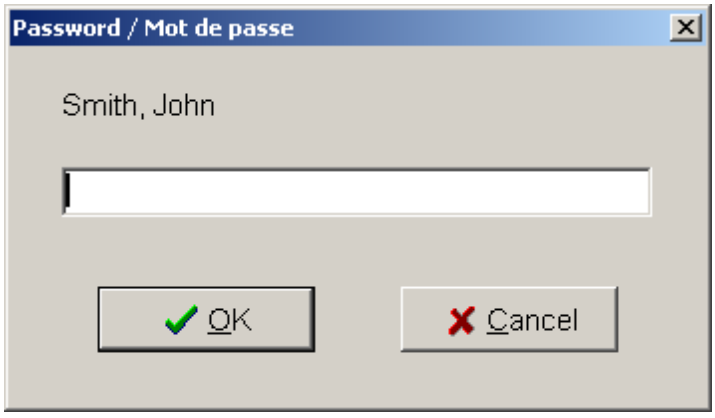
14. Here you can choose to Launch EDC Client straight away. I suggest you start it now to validate that the installation worked as planned. Once started you will get to the login screen of EDC Client like so:




15. A "Supervisor" account is already installed in the system for you initial login. Click on the "OK" button to enter EDC Client. A window will then open prompting you to enter a password like so:




16. The initial password for the supervisor account is "mainkey" so use this to login this first time.

17. Once logged in the main screen of EDC Client will open like so:

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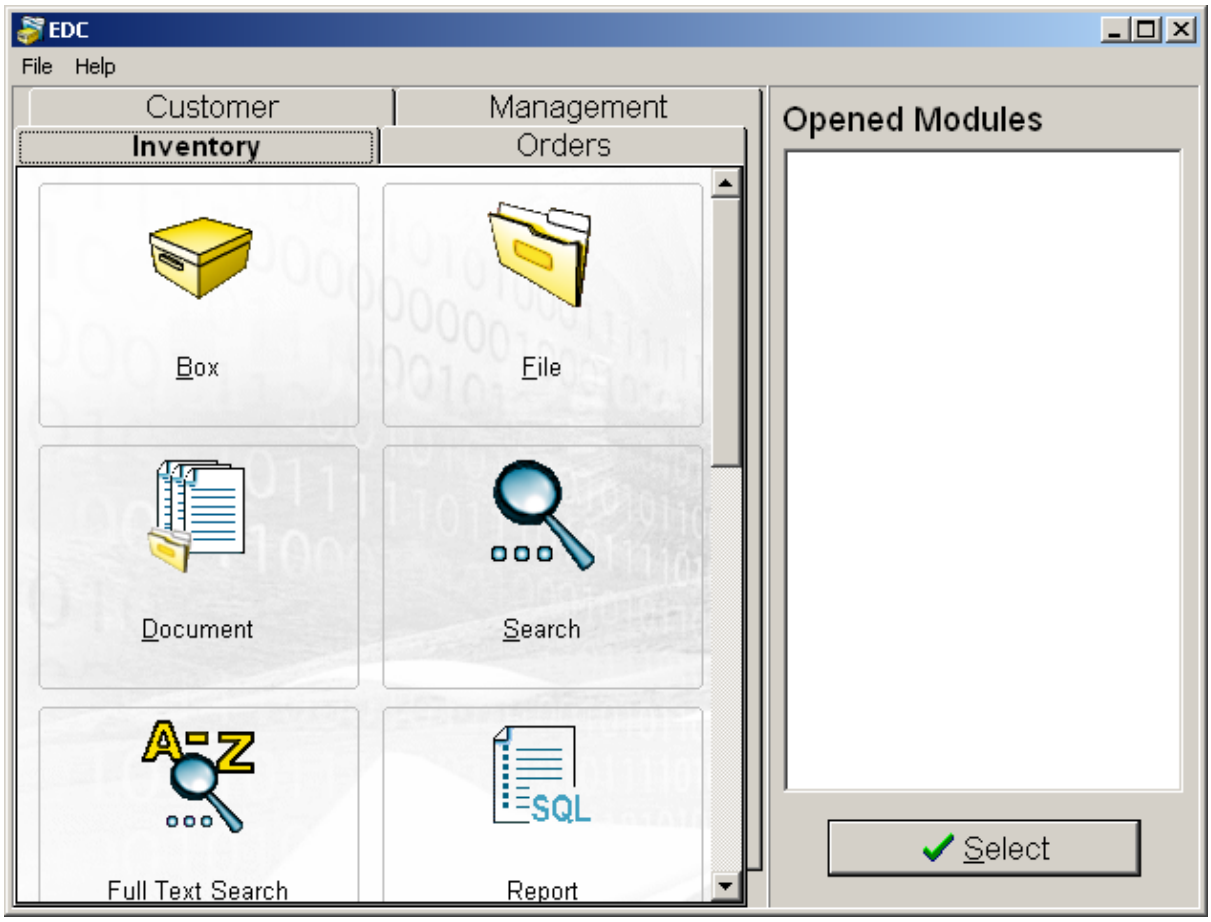


That's it! EDC Client is now installed. Congratulations!

Next we need to set up the EDC Client services. Refer to the section entitled "Installing EDC Client Services" 61 for instructions.

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## 2.3.4 Installing and Testing Replication

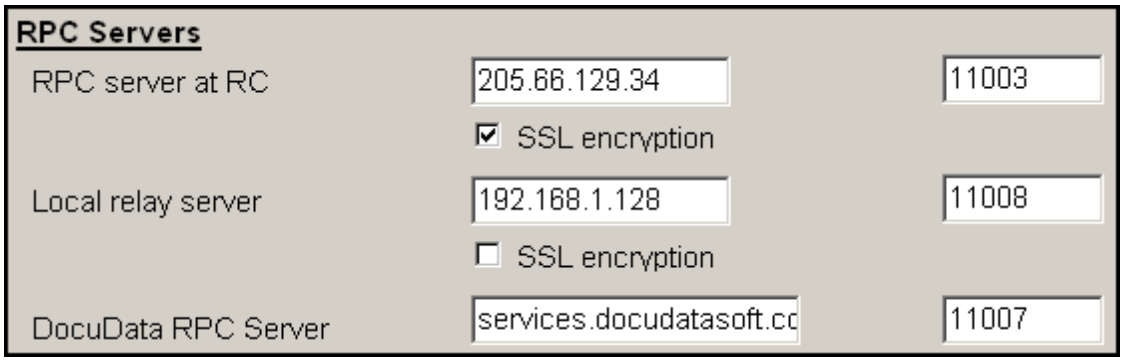
The following sections will guide you through the installation and testing of replication, which allows data synchronization between a customer and its record center.

### 2.3.4.1 Selecting a Replication Server

The first step in installing the replication is selecting the server that will run the replication for the customer site. Replication does not require much bandwidth and processing power. It is recommended that this server is one that is not regularly restarted or shut down. The server must have Pervasive.SQL installed to access the database. Usually, the EDC database server is chosen to run the replication.

### 2.3.4.2 EDC Client Replication Configuration

Since there is only one replication process running for the customer site, each copy of EDC Client must be aware of its location. This information is stored in the database and is set from System Information module, as shown in the following screenshot.




RPC server at RC — The record center's replication server and port. The record center can provide you with this information. SSL encryption will need to be checked if the record center's replication server uses it. This setting is read by *replicator.exe*.

Local relay server — The local IP address and port of the server running *replicator.exe*. This address is used by all running EDC Client applications when placing orders and performing other procedures requiring instant replication. SSL encryption is usually not recommended for intranet communication, since it unnecessarily increases bandwidth consumption and processing power. This setting is read by *remo32.exe*.

DocuData RPC Server — The DocuData server that EDC Client uses to create licenses for customers. These values should be those shown above, unless otherwise instructed by the record center or DocuData. This setting is read by *remo32.exe*.

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#### 2.3.4.3 Ports Used for Replication

The following specifies communication that must not be blocked by firewalls for proper functioning of EDC Client. Each server's IP addresses and ports are specified in the section EDC Client Replication Configuration 45.

- Outgoing communication from *replicator.exe* to RPC server at RC
- Incoming communication to *replicator.exe*, located at Local relay server
- Outgoing communication to DocuData RPC Server

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#### 2.3.4.4 Running Replication

The replication process must be running whenever EDC Client is used when interaction is needed between the customer and the record center. For example, replication is required to place orders. See Operations that Require Replication 132 for a longer list of such activities.

The replication process can be installed by including it in the Start menu's Startup group, or it can be installed as a service. The latter is recommended since no user needs to be logged in for the replication process to start. To install replication as a service, the operating system must be Windows NT, 2000, XP, or 2003.

Related topics:
Running Replication in the Startup group 48
Running Replication as a Service 49
Replication Command Line Parameters 52

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2.3.4.4.1 Running Replication in the Startup group

The easiest way to run replication is to run it through a shortcut placed in the Startup group of the Windows Start menu.

1. Under the "All Users" profile, create a shortcut in the startup folder, pointing to *replicator.exe*
2. In the shortcut's "Start in" setting, write an absolute path to the directory where the dc.cfg configuration file is located. This parameter accepts paths on local drives, paths on mapped drives, and UNC paths.

For more information on referencing a configuration file, see Configuration of EDC Client 30.

For replication settings, see Replication Command Line Parameters 52.

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2.3.4.4.2 Running Replication as a Service

In the examples shown below, it is assumed that replication is wanted from 6:30 am to 10:00 pm, at 15 minute intervals. The service will be named "EDC_Replicate" instead of its default name "EDC_Client_Replication".

**Installing the replication as a service**

Before installing the replication as a service, Pervasive.SQL must also be installed as a service.

1. Installing the service

   To install replication as a service, type the following in a command prompt:

   ```
   Replicator.exe -install ServiceName=EDC_Replicate ReplicationInterval=15
       Start=06:30 Stop=22:00 CfgFile=C:\EDC\Bin\Dc.cfg
   ```

   The `ServiceName`, `Start`, and `Stop` parameters are optional. Please see Replication Command Line Parameters 521 for more information on accepted parameters.

2. Creating a dependency

   The EDC server processes are dependant on the Pervasive transactional service. You will need to set a dependency of the EDC services on the Pervasive transactional service to make sure the EDC services start properly and are also closed before stopping the Pervasive transactional service.

   a) Run Regedt32 (not regedit) and browse to
   `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\`

   b) Determine the name of Pervasive's transactional service, which should resemble "Pervasive.SQL (transactional)" or "Pervasive WGE"

   c) Browse to
   `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EDC_Client_Replication`

   Note that if the `ServiceName` parameter was used during installation, the name will not be "`EDC_Client_Replication`".

   d) At that location, add a new Multi-String Value (REG_MULTI_SZ) named "`DependOnService`". Edit the value to the trasactional service to be the name of the Pervasive transactional service, which was found in step (b), above.

   e) Verify the dependency by viewing the replication service's properties. An example is shown below.

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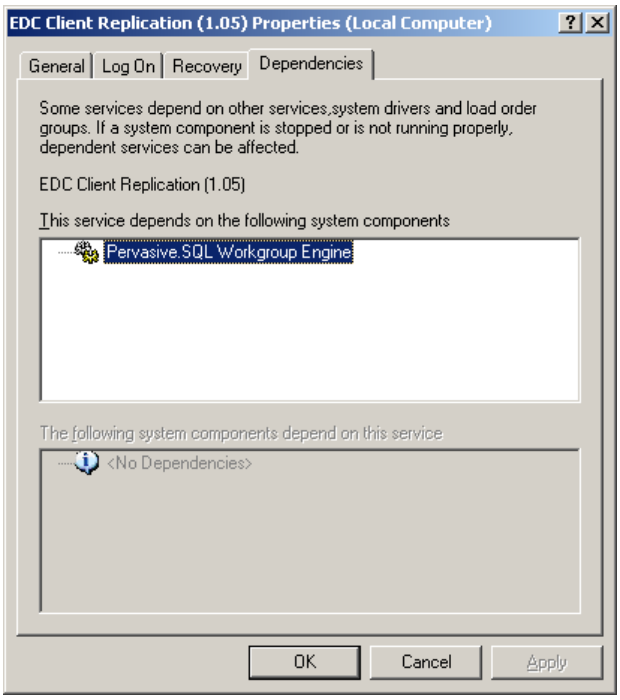
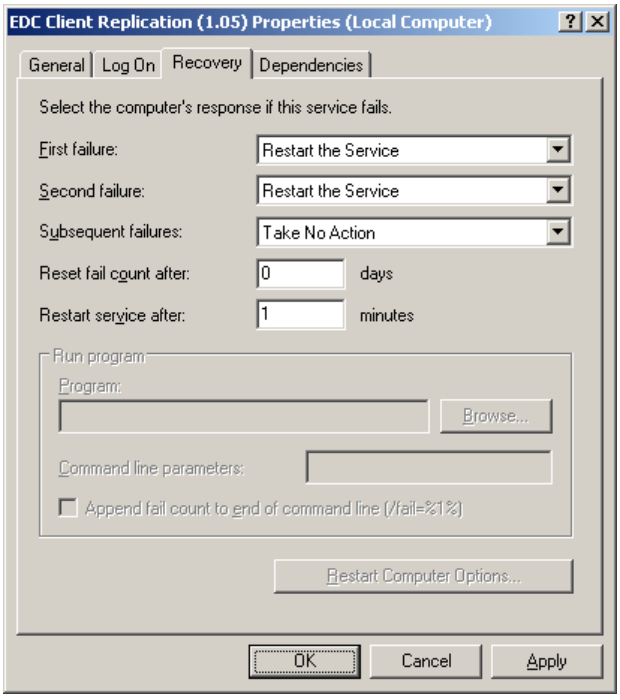

EDC Client Replication (1.05) Properties (Local Computer)
General
Log On
Recovery
Dependencies
Some services depend on other services,system drivers and load order groups. If a system component is stopped or is not running properly, dependent services can be affected.
EDC Client Replication (1.05)
This service depends on the following system components
Pervasive.SQL Workgroup Engine
The following system components depend on this service
<No Dependencies>
OK
Cancel
Apply

3. Set recovery settings

In the replication's service properties, click on the Recovery tab and set the settings as shown below.




4. Starting the service

The service is now installed, but might need to be started, which can be done from the General

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tab of the replication service's properties.

If the service does not start correctly, it could be due to user access settings. When running a service as explained above, the replication is running under the local user SYSTEM, who might not have the required rights to access replicator.exe, the database file as specified in the configuration file (dc.cfg). Also note that the SYSTEM user might not have mapped drives.

It is possible to run replication as an administrative user by using the Log On tab of the replication service's properties. Again, please note that the mapped drives might not be available when the service is started since map drives are usually mounted during logon. An alternative is to use UNC paths in the configuration file (dc.cfg).

Here are some points to keep in mind when installing an EDC server process as a service:

- Services can only be installed under Windows NT/2000/XP/2003
- You cannot use relative paths in the configuration file (dc.cfg) when running EDC Server as a service.
- You might need to log on as a user with proper access to the data if the service accesses data files on another computer.
- When installing the service to access remote data, you must specify UNC paths in the configuration file that the service is pointing to.
- When installing the service from the command prompt, you cannot use spaces in the path for the configuration (you can use long file names).
- You can start and stop the service from a command prompt using the command "`net start EDC_Client_Replication`" and "`net stop EDC_Client_Replication`". If the `ServiceName` parameter was used during installation, the name specified should replace "`EDC_Client_Replication`".

**Uninstalling the replication service**

To uninstall the previously installed service,

```
Replicator.Exe -uninstall ServiceName=EDC_Replicate
```

If the `ServiceName` parameter was not used during the installation, the `ServiceName` parameter can also be omitted from the uninstall command.

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2.3.4.4.3 Replication Command Line Parameters

This is to be used as a reference for the command line parameters for *replicator.exe*

| | |
|---|---|
| `-install` | Used to install the replicator as a service. See Running Replication as a Service 49 for more information. |
| `-uninstall` | Used to uninstall the replicator as a service. The `ServiceName=xxxxx` parameter (explained below) will be needed if the replication was installed with this parameter. See Running Replication as a Service 49 for more information. |
| `ServiceName=xxxxx` | Used to specify a different service name than the default (`EDC_Client_Replication`) when installing or uninstalling the replication as a service. See Running Replication as a Service 49 for more information. |
| `ReplicationInterval=xx` | Specifies the time interval between replications. The default replication interval is 15 minutes. Not all information is replicated at this interval. See Replication Process Explained 130 for more information. |
| `Start=xx:xx` | Specifies the time replication should start replicating. Note that *replicator.exe* will not run on its own at the specified start time; it will simply start replicating if it was running but not replicating before. The default start time is 00:00 (midnight). |
| `Stop=xx:xx` | Replication will stop after the time specified, unless the start time is one minute later. Note that *replicator.exe* will not exit after the stop time; it will simply not replicate until the start time, as explained above. The default stop time is 23:59. |
| `CfgFile=xxxxx` | This specifies an absolute path and filename to the configuration file (dc.cfg). This is a required parameter if the replications is being installed as a service. See Running Replication in the Startup group 48 and Running Replication as a Service 49 for more information. |

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#### 2.3.4.5 User configuration

Before a user can perform operations that require replication, the user must have a "Login Name" and a password that match the record center's database. Therefore, the customer must contact the record center to have this information verified manually.

The list of operations that require replication can be found in Operations that Require Replication 132.

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#### 2.3.4.6 Testing Replication

There are two main tests that may be performed to test replication. What follows is the recommended troubleshooting procedure. If a test fails at any given step, see the sub steps to find possible causes

1. To test replication connectivity, the simplest method is to go to the Box module and go to Edit > Refresh with Record Center

   a) Ensure that *replicator.exe* is running and was restarted after any modification to the System Information module or configuration file. Replicator can be restarted.

   b) Ensure that the replication settings are correct in System Information. More information on this can be found in the section EDC Client Replication Configuration 45.

   c) Try telnetting to the address and port specified as "Local relay server" in System Information. If this fails, there could be a firewall issue.

   d) Try telnetting to the address and port specified as "RPC Server at RC" in System Information. If this fails, there could be a firewall issue or the record center's server might be down.

   e) Ensure with the record center that the password in Customer Information is correct.

2. If the first test passes, the next step is to test user credentials by placing an order that is allowed for the user. If the order is one that should not be delivered, ensure that the record center is aware of the test before hand.

   a) Ensure that the user has a login name

   b) Ensure that at the record center, the user is active and his or her login name is correct

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## 2.3.5 Installing and Testing the Image Server

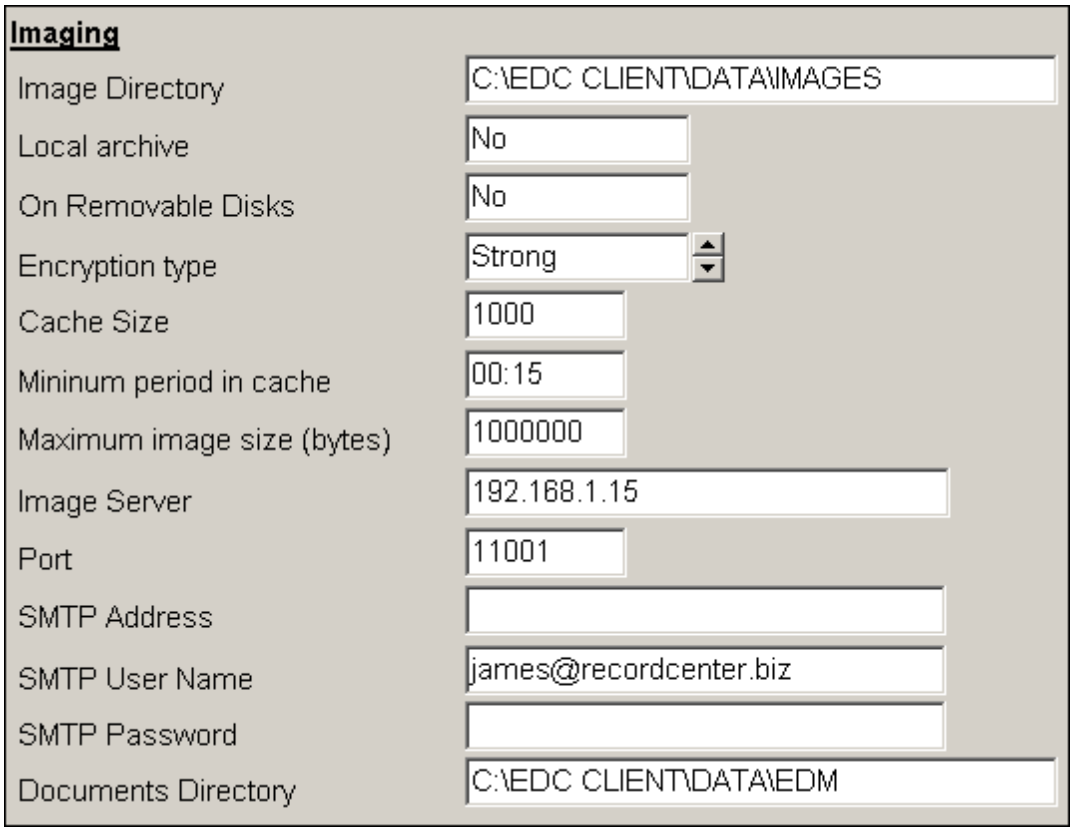
The following sections will guide you through the installation and testing of the image server, which allows for access and storage of digital versions of documents found in the File module.

### 2.3.5.1 Selecting a computer for the Image Server

The first step in installing the image server is selecting the server that will run the image server for the customer site. The Image Server requires higher bandwidth than replication because it performs image file transfers. It is recommended that this server is one that is not regularly restarted or shut down. The server must have Pervasive.SQL installed to access the database. Usually, the EDC database server is chosen to run the image server.

### 2.3.5.2 EDC Client Image Server Configuration

Since there is only one image server process running for the customer site, each copy of EDC Client must be aware of its location. This information is stored in the database and is set from System Information module, as shown in the following screenshot.




| | |
|---|---|
| Image Directory | Location for internal storage of images.<br>Can only be modified from the Edit menu item. |
| Local archive | Field that determines if images are archived in-house or off-site. Once this field indicates "Yes" or "No" it can't be modified. |
| On Removable Disks | Field that determines if images will be archived in-house on one disk |

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| | |
|---|---|
| | (field set to "No") or on many interchangeable disks. |
| Encryption type | Drop-down field containing "None", "Strong" or "Medium"<br>This is the security level for images encryption. |
| Cache Size | Number of images that can be archived in-house. When new images are called back, old ones are automatically sent to the off-site record center (effective only if Local archive field is set to "No"). |
| Minimum period in cache | Minimum period required before sending old images to the off-site record center (effective only if Local archive field is set to "No"). |
| Maximum image size (bytes) | Maximum size for image. Every document bigger that this size would not be scanned and an error message will be produced by the system. |
| Image Server | IP address of the engine where image server is active. |
| SMTP Address, username, password | Outgoing email settings for sending images over the internet. |
| Documents Directory | Directory where the customer's electronic documents will be archived. |

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### 2.3.5.3 Port Used for the Image Server

The image server runs on one computer at the customer site and is available to serves all instances of EDC Client requiring access or storage of images. To do this, the image server listens on a port specified in section EDC Client Image Server Configuration 55. Therefore, the computer running the Image Server must allow incoming connections through this port. When need be, the client looks up in the database the IP address and port of the image server, and attempts a connection to the image server.

### 2.3.5.4 Running the Image Server

The image server process must be running whenever EDC Client is used to access or store digital versions of documents found in the File module.

The image server process can be installed by including it in the Start menu's Startup group, or it can be installed as a service. The latter is recommended since no user needs to be logged in for the image server process to start. To install the image server as a service, the operating system must be Windows NT, 2000, XP, or 2003.

Related topics:
Running the Image Server in the Startup Group 57
Running the Image Server as a Service 57
Image Server Command Line Parameters 59

#### 2.3.5.4.1 Running the Image Server in the Startup Group

The easiest way to run the image server is to run it through a shortcut placed in the Startup group of the Windows Start menu.

1. Under the "All Users" profile, create a shortcut in the startup folder, pointing to *ImgSer32.exe*
2. In the shortcut's "Start in" setting, write an absolute path to the directory where the dc.cfg configuration file is located. This parameter accepts paths on local drives, paths on mapped drives, and UNC paths.

For more information on referencing a configuration file, see Configuration of EDC Client 30.

For replication settings, see Image Server Command Line Parameters 59.

#### 2.3.5.4.2 Running the Image Server as a Service

In the examples shown below, the image server service will be named "EDC_Imaging" instead of its default name "EDC_ImageServer".

**Installing the image server as a service**

Before installing the image server as a service, Pervasive.SQL must also be installed as a service.

1. Installing the service

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To install the image server as a service, type the following in a command prompt:

```
ImgSer32.exe -install ServiceName=EDC_Imaging CfgFile=C:\EDC\Bin\Dc.cfg
```

The `ServiceName` parameter is optional. Please see Image Server Command Line Parameters 59 for more information on accepted parameters.

2. Creating a dependency

   Please refer to the "Creating a dependency" section in Running Replication as a Service 49.

3. Set recovery settings

   Please refer to the "Set recovery settings" section in Running Replication as a Service 50.

4. Starting the service

   The service is now installed, but might need to be started, which can be done from the General tab of the replication service's properties.

If the service does not start correctly, it could be due to user access settings. When running a service as explained above, the replication is running under the local user SYSTEM, who might not have the required rights to access replicator.exe, the database file as specified in the configuration file (dc.cfg). Also note that the SYSTEM user might not have mapped drives.

It is possible to run replication as an administrative user by using the Log On tab of the replication service's properties. Again, please note that the mapped drives might not be available when the service is started since map drives are usually mounted during logon. An alternative is to use UNC paths in the configuration file (dc.cfg).

Here are some points to keep in mind when installing an EDC server process as a service:

- Services can only be installed under Windows NT/2000/XP/2003
- You cannot use relative paths in the configuration file (dc.cfg) when running EDC Server as a service.
- You might need to log on as a user with proper access to the data if the service accesses data files on another computer.
- When installing the service to access remote data, you must specify UNC paths in the configuration file that the service is pointing to.
- When installing the service from the command prompt, you cannot use spaces in the path for the configuration (you can use long file names).
- You can start and stop the service from a command prompt using the command "`net start EDC_ImageServer`" and "`net stop EDC_ImageServer`". If the `ServiceName` parameter was used during installation, the name specified should replace "`EDC_ImageServer`".

**Uninstalling the image server service**

To uninstall the previously installed service,

```
ImgSer32.Exe -uninstall ServiceName=EDC_Imaging
```

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If the `ServiceName` parameter was not used during the installation, the `ServiceName` parameter can also be omitted from the uninstall command.

#### 2.3.5.4.3 Image Server Command Line Parameters

This is to be used as a reference for the command line parameters for *ImgSer32.exe*

| | |
|---|---|
| `-install` | Used to install the image server as a service. See Running the Image Server as a Service 57 for more information. |
| `-uninstall` | Used to uninstall the image server as a service. The `ServiceName=xxxxx` parameter (explained below) will be needed if the image server was installed with this parameter. See Running the Image Server as a Service 57 for more information. |
| `ServiceName=xxxxx` | Used to specify a different service name than the default (`EDC_ImageServer`) when installing or uninstalling the image server as a service. See Running the Image Server as a Service 57 for more information. |
| `CfgFile=xxxxx` | This specifies an absolute path and filename to the configuration file (dc.cfg). This is a required parameter if the image server is being installed as a service. See Running the Image Server in the Startup Group 57 and Running the Image Server as a Service 57 for more information. |

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#### 2.3.5.5 Testing the Image Server

The easiest way to test the image server is to try accessing the image server, scanning or importing an image file representing a document in the File module, and using optical character recognition (OCR) on it. The steps are outlined below. Note that once an image is added to a file, it cannot be removed. If a test fails at any given step, see the sub steps to find possible causes

1. Look for a test file in the File module. Go to File > Images. The imaging dialog should appear.

   a) Ensure that *ImgSer32.exe* is running and was restarted after any modification to the System Information module or configuration file. Replicator can be restarted.

   b) Ensure that the image server settings are correct in System Information. More information on this can be found in the section EDC Client Image Server Configuration 55.

   c) Try telnetting to the address and port specified as in the "Imaging" section of System Information. If this fails, there could be a firewall issue.

2. Scan or import an image file into the Image Server.

3. Perform optical character recognition (OCR) from the imaging dialog.

   a) Ensure that the scan is of at least 200 pixels per inch (ppi). It is recommended to use 240 or 300 ppi.

   b) If the OCR still fails, try scanning at a slightly different (higher or lower) resolution.

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## 2.3.6 Installing EDC Client Services

**EDC Client Services Setup**

For EDC Client to function properly, 3 services need to be setup:

- The Replication Server (replicator.exe)
- The Image Server (imgser32.exe)
- The XML-RPC Server (edcclrpc.exe) (optional ~ only used for ActiveWeb and Outlook Integration)

The way you install them is the same for all three of them with the exception that some services have different command-line parameters available to them. So below is the procedure to both install and uninstall an EDC service.

1. Start the windows command prompt
2. Browse to the bin folder of your EDC Client installation. The bin folder is located just underneath the root folder. (by default it is located at C:\EDC Client\bin)
3. Then you simply enter the executable name followed by -install and then any special parameters if needed. Here's an example for the XML-RPC service:

The command-line parameters available to these services are explained below. Note that these parameters apply to all three services except where otherwise noted.

**Command-line parameters**
**Note: the command-line parameters are NOT case-sensitive.**

**- cfgfile:** This parameter indicates where to find the EDC configuration file "dc.cfg". Always use an absolute path here. Relative paths have been known to cause problems in the past. If your absolute path contains spaces, you need to enclose your parameter between double quotes as such: "cfgfile=C:\path to\my cfg file". **Note that this parameter is mandatory for any EDC service install.**

**- servicename:** This parameter indicates the name of the service itself. This is the name that you would normally see when you open the services control panel from within windows. This parameter is optional because there is a default name that is assigned to the service when you install it without that parameter. Only use this parameter if you wish to change the default values.

Here is a list of default service names for each of the three services:

| EDC Service (executable name) | Default Service Name |
|---|---|
| XML-RPC Server (edcclrpc.exe) | EDC Client RPC |
| Image Server (imgser32.exe) | EDC Image Server Client |
| Replication Server (replicator.exe) | EDC Client Replication |

**- portno:** This parameter indicates what port you want the service to use for it's communications. Like the servicename parameter, there is also some default port values that these services uses. Here is a list of these default ports:

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| EDC Service(with executable name) | Default Port Number |
|---|---|
| XML-RPC Server (edcclrpc.exe) | 11004 |
| Image Server (imgser32.exe) | 11001 |
| Replication Server (replicator.exe) | 11008 |

Note that these port numbers should not be changed unless you have absolutely have to. Also **be sure that the port numbers you set for the Replication Server and the Image Server match the numbers indicated in the system information module of EDC Client**.

- **ssl: This parameter is only used by the XML-RPC Server and the Replication Server** and indicates if the communication with the server is encrypted or not. This setting also has to match what is written in the system information module of EDC Client. The possible values for this parameter are "yes" or "no".

A reference of all the available command-line parameters for the EDC Client services can be found in the Technical Guide under the "Command-Line Parameters" 171 section.

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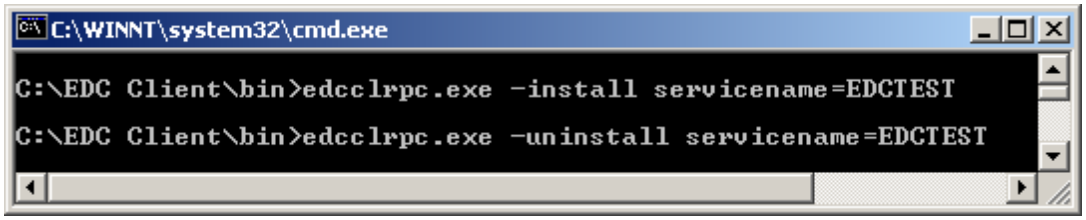
## 2.3.7 Uninstalling EDC Client Services

**How to uninstall EDC Client services**

If you wish to uninstall an EDC Client service, the usual procedure is simply to browse to the bin folder of your installation with the command prompt and type the name of the executable with the -uninstall switch. Here's an example:

The only exception to this is if you installed the service with the servicename parameter. In that case you need to specify the servicename to uninstall it as well like so:

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## 2.3.8 Other Services Settings and Dependencies

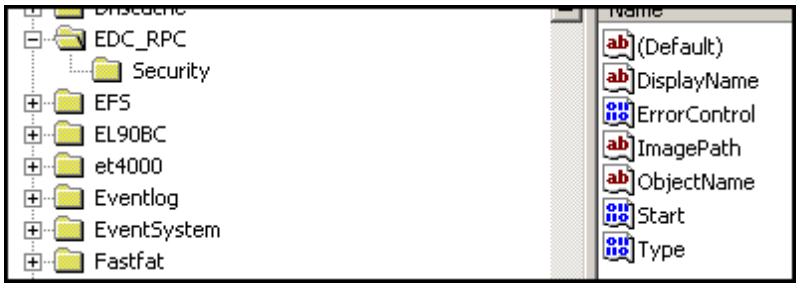
**Other Services Settings and Dependencies**

There is a few more settings to set before the EDC Client services are all ready to run in a production environment. Also all EDC Client services depend on the Pervasive database service to run. So we need to set a Pervasive dependency for every service. Here's how we do it:

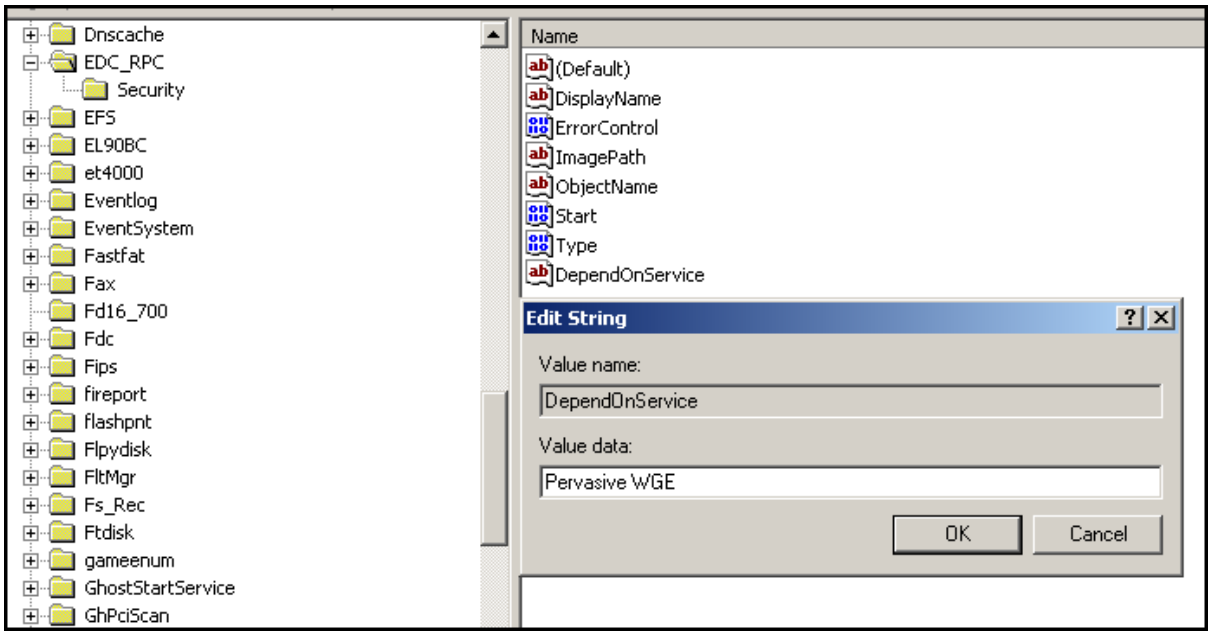
1- You need to add a value in the registry of each EDC Client service. You need to browse (with regedit.exe) to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services. Once there you just have to find the EDC service you wish to edit. All EDC services start with EDC by default and so it should make it easy to find them.

2- Then you have to add a string value with the name "DependOnService" and put the Pervasive service name as the value. If you have 2 Pervasive services running (Relational & Transactional), use the Pervasive Transactional service name. Here's some screenshots that should help you accomplish this task:

Here's what you should find in the registry before you start editing:




Adding the value:




The value you need to put in the "Value data" field is the name of the service as shown in the service's

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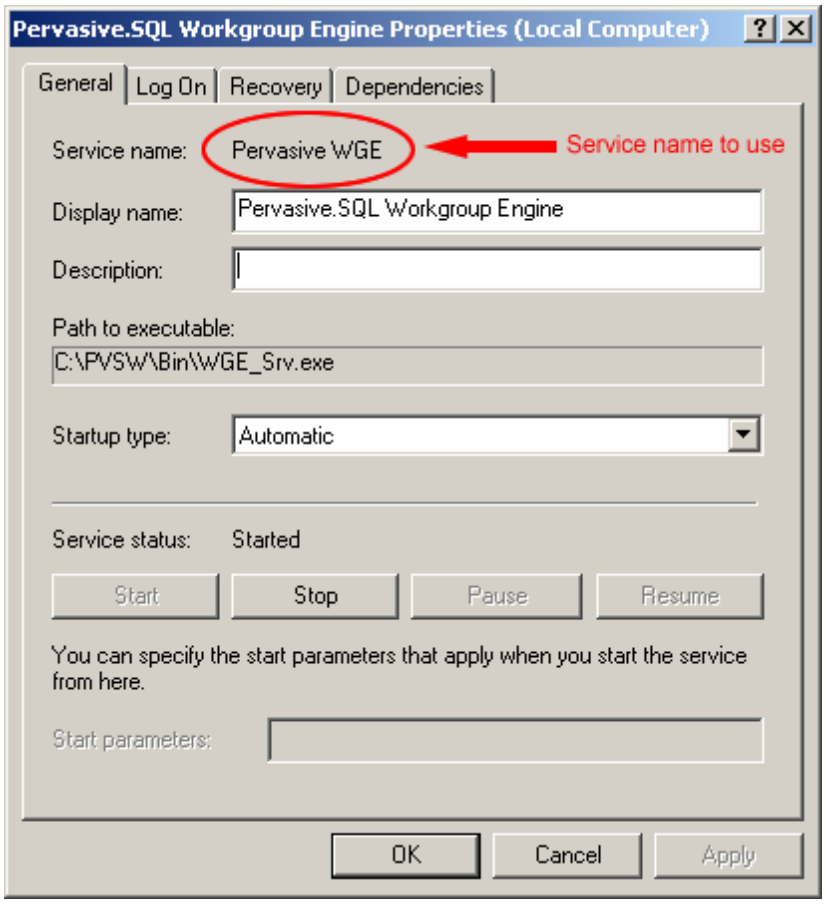
properties like so:




We're done with setting the pervasive dependency. Once this is done you will see the dependency in the dependencies tab of your EDC service like so:

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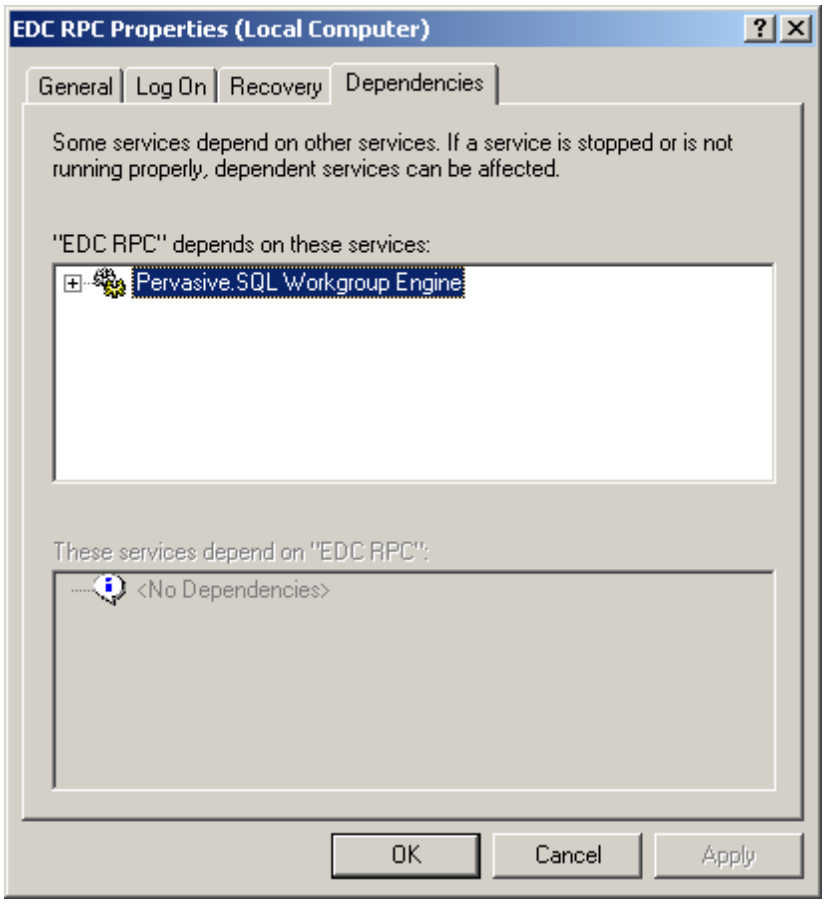
EDC RPC Properties (Local Computer)
General
Log On
Recovery
Dependencies
Some services depend on other services. If a service is stopped or is not running properly, dependent services can be affected.
"EDC RPC" depends on these services:
Pervasive.SQL Workgroup Engine
These services depend on "EDC RPC":
<No Dependencies>
OK
Cancel
Apply

The last thing to do now is set the service's restart options in case something goes wrong at the startup of the computer. To do this we go to the recovery tab of the EDC service and set the first and second failure options to "Restart the Service" like so:

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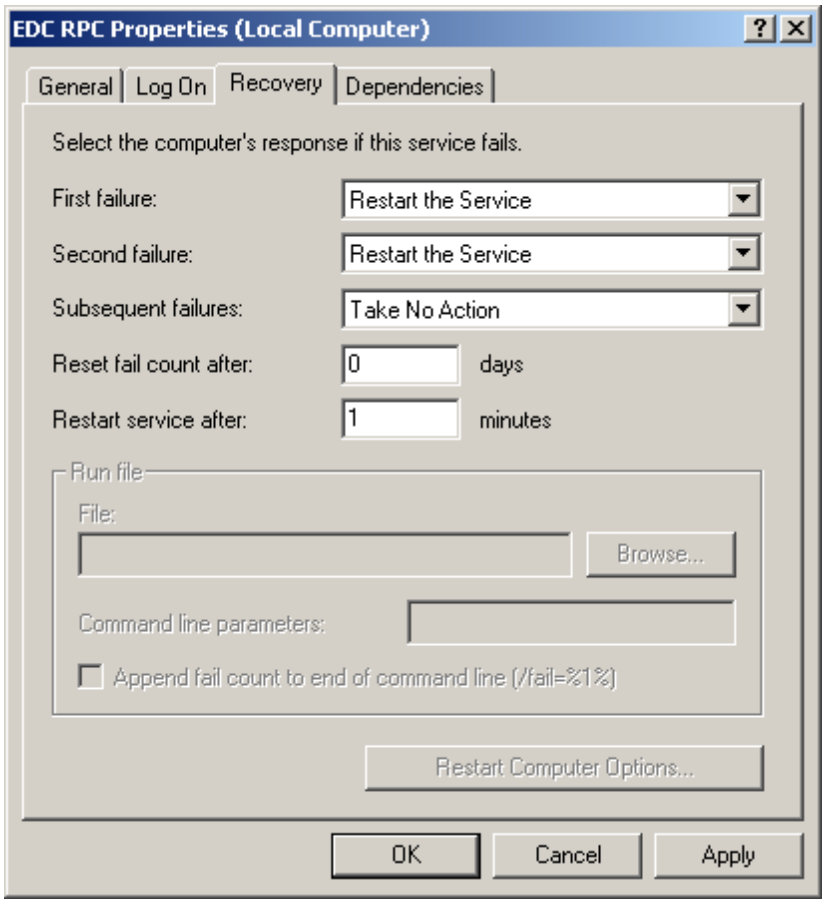


That's it! The EDC Client services are now ready for production use. Now the last part of the setup consist of setting up the web part of EDC Client: ActiveWeb.

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## 2.3.9 ActiveWeb Installation

### 2.3.9.1 Introduction

ActiveWeb is a component of the EDC Client software. It is a web based solution to manage active and semi-active documents.

ActiveWeb uses a scalable multi-tier architecture consisting of the following:

- An internet browser. Tested on Internet Explorer 6 or later, Netscape 7 or later, and Firefox 1 or later.
- A web server with Java Server Pages (JSP) support. Tested on Tomcat, the reference JSP implementation.
- The EDC Client XML-RPC multi-threaded server.
- The EDC Client database.

### 2.3.9.2 Required Software

**EDC**

Before installing ActiveWeb, the EDC Client software and application must be properly installed.

The ActiveWeb JSP application is deployed in a java WAR file having the name,

activeweb.war

**J2SE Java Runtime Environment**

RCWeb requires the J2SE Java Runtime Environment (JRE). The JRE is free of any licensing costs. As of February 2006, the latest version is, JRE 5.0 Update 6, and may be downloaded from:

http://java.sun.com/j2se/1.5.0/download.jsp

The file that will be downloaded is: jre-1_5_0_06-windows-i586-p.exe

**Tomcat Servlet Container**

The Tomcat servlet container and integrated web server is the recommended JSP environment. Tomcat is free of any licensing costs. As of February 2006, the latest version is, 5.5.15, and may be downloaded from,

http://tomcat.apache.org:

The file to download is: apache-tomcat-5.5.15.exe

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#### 2.3.9.3 Installing the JRE and Tomcat

**Important:** Before installing the Java Runtime Environment and Tomcat, the current user must have administrator rights.

**Installing the J2SE Java Runtime Environment**

To install the JRE, launch the

jre-1_5_0_06-windows-i586-p.exe

executable (or later version). Select the Typical setup type, and complete the installation wizard. This may require a reboot of the workstation.

**Installing the Tomcat Servlet Container**

**Note: Tomcat should be installed in a DMZ separate from your internal network for better security. Some information about DMZ's can be found here:**

http://en.wikipedia.org/wiki/DMZ_host

To install Tomcat, launch the

apache-tomcat-5.5.15.exe

executable (or later version). It is recommended to enter a password for the Tomcat "admin" user.

Tomcat is installed as a Windows service. By default, it is configured to start manually. This should be changed to "automatic". This can be changed using the Configure Tomcat utility (available in the Start menu) or in the Windows service manager. The Configure Tomcat utility is shown below:

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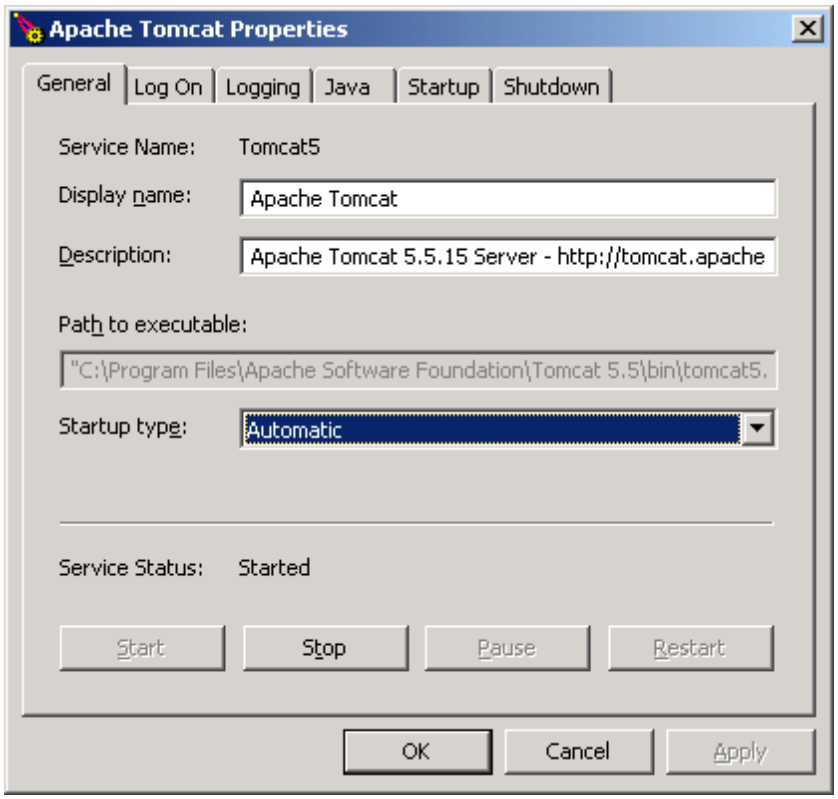


The service should be started at this point.

Opening the page,

http://127.0.0.1:8080/

on the workstation where Tomcat is running should display a page similar to:

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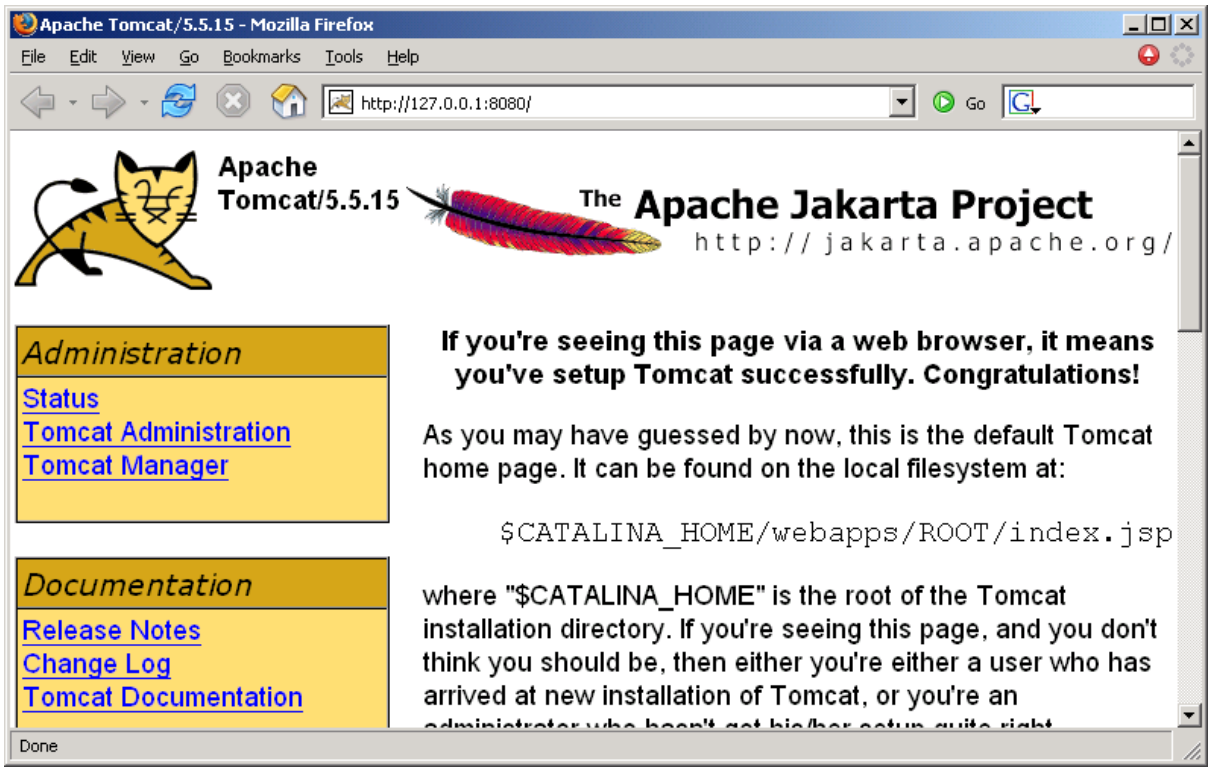
Apache Tomcat/5.5.15 - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://127.0.0.1:8080/
Go
Apache
Tomcat/5.5.15
The Apache Jakarta Project
http://jakarta.apache.org/
Administration
Status
Tomcat Administration
Tomcat Manager
Documentation
Release Notes
Change Log
Tomcat Documentation
If you're seeing this page via a web browser, it means you've setup Tomcat successfully. Congratulations!
As you may have guessed by now, this is the default Tomcat home page. It can be found on the local filesystem at:
$CATALINA_HOME/webapps/ROOT/index.jsp
where "$CATALINA_HOME" is the root of the Tomcat installation directory. If you're seeing this page, and you don't think you should be, then either you're either a user who has arrived at new installation of Tomcat, or you're an
Done

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#### 2.3.9.4 Configuring the EDC Client RPC Server

The ActiveWeb JSP application will communicate with the EDC software using the EDC Client remote procedure call (RPC) server. This server process is executed using the EdcClRpc.EXE file.

**Executing as a regular process**

By default, if it is executed without any command line parameters it will listen on TCP port 11004. To run the server on a different port, the following can be used:

EdcClRpc.Exe PortNo=14000

The parameters are not case sensitive.

**Executing as a service**

To install as a service, the following command must be used:

EdcClRpc.exe -install PortNo=14000 CfgFile=C:\EDC\Bin\Dc.cfg

By default, the name of the service in the Service Manager, is "EDC_Client_RPC". A different service name may be specified using,

EdcClRpc.exe -install ServiceName=EDC_Client_RPC_1 PortNo=14000 CfgFile=C:\EDC\Bin\Dc.cfg

To uninstall the previously installed service,

EdcClRpc.exe -uninstall ServiceName=EDC_Client_RPC_1

The ServiceName parameter is required with the -uninstall command if it was specified during the install command.

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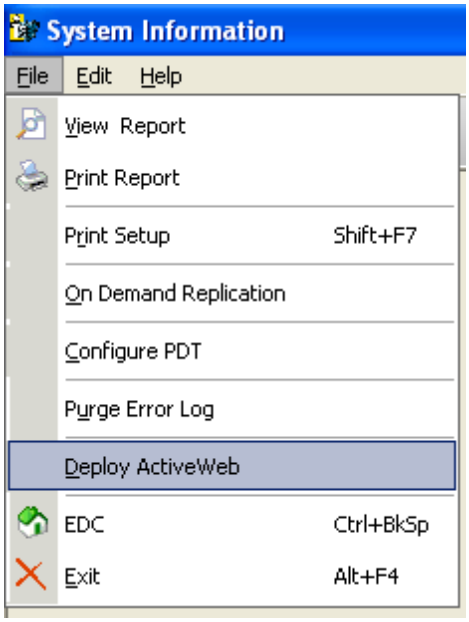
### 2.3.9.5 Installing ActiveWeb via the Deploy Wizard

Since version 5.10.21 EDC Client has a "Deploy Wizard" to help you deploy ActiveWeb on your web server. This deploy method is the preferred way to install and/or update ActiveWeb. **If you update ActiveWeb in any other way you might loose some customizations & settings that were previously there before you update.**

**Note: To be able to use this wizard you need to have the Java SE Development Kit (JDK) installed on your machine. The JDK is available from this page:**

http://java.sun.com/javase/downloads/index.jsp

This deploy wizard is accessible from the "System Information" module in EDC Client under the File menu like so:




When you launch the wizard you first get this window:

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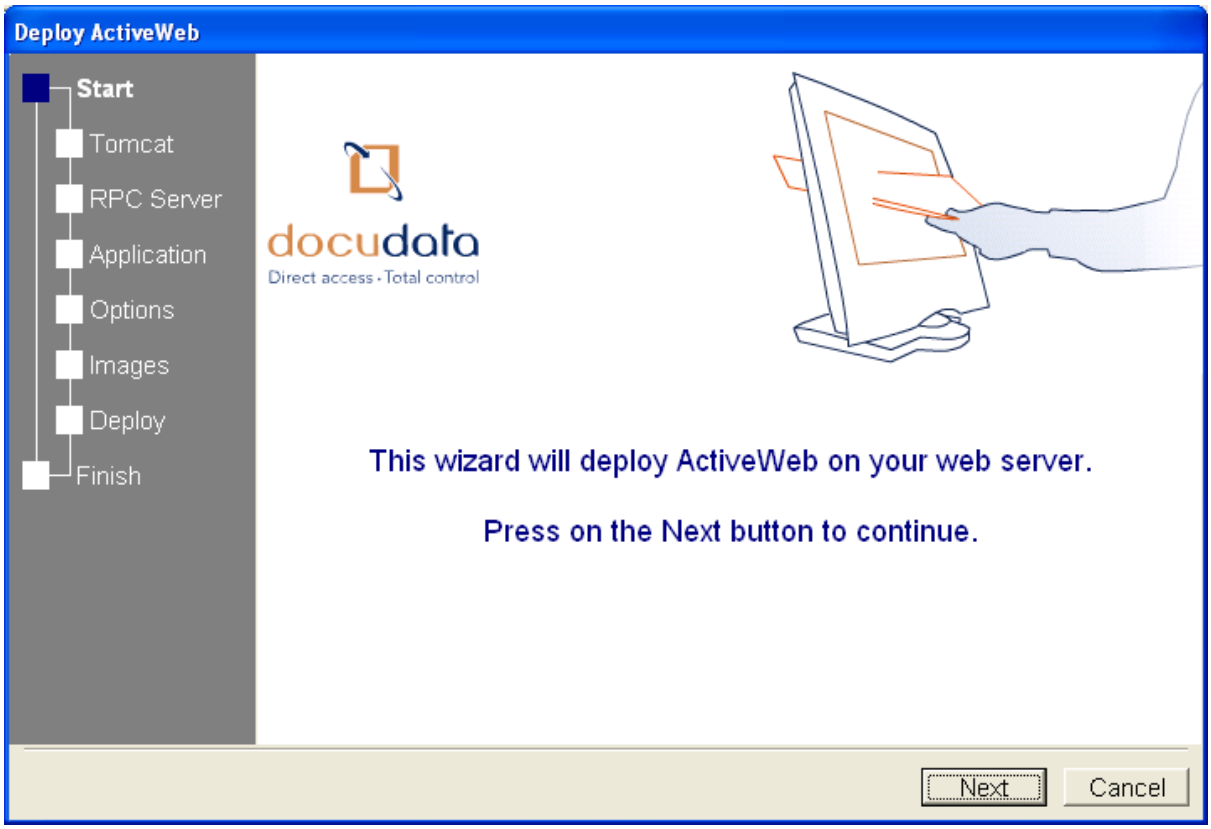
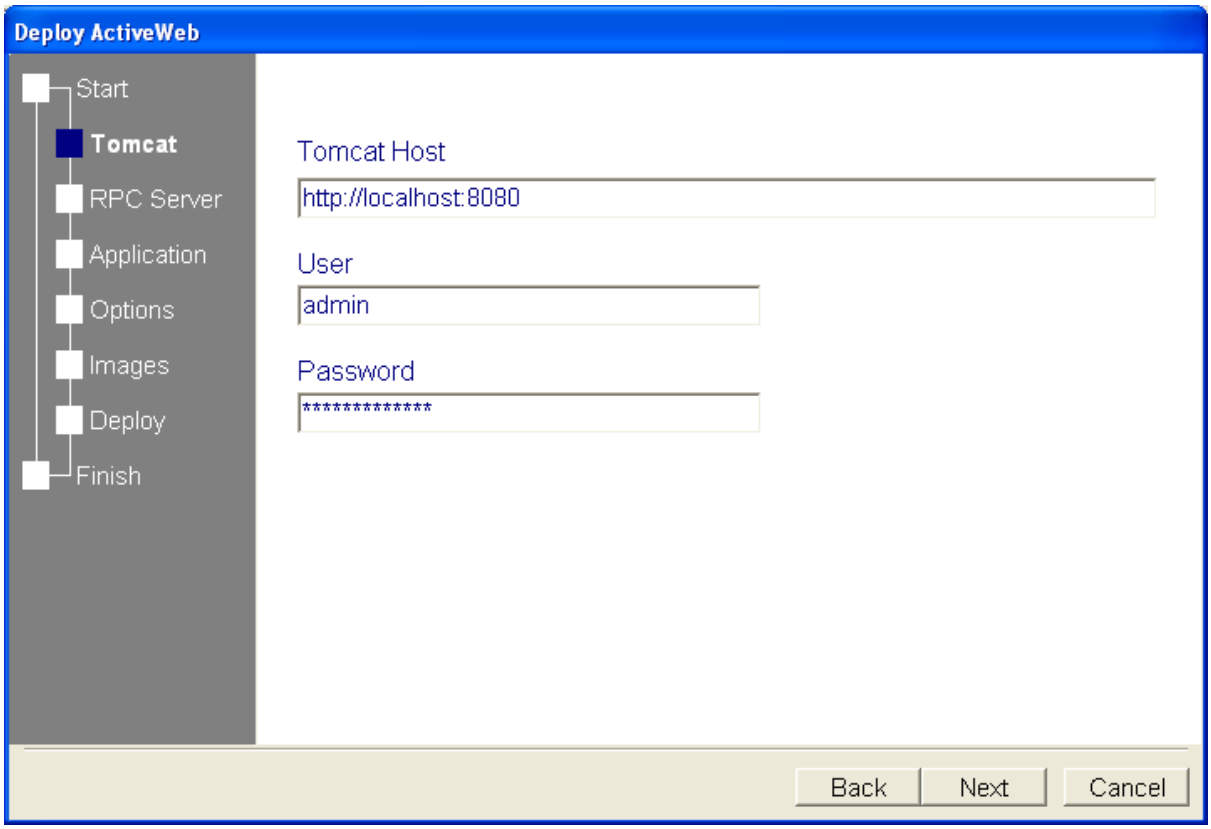



You click "Next" to get to the following screen:

© 2013 DocuData Software Corporation




Here you have to enter the URL that points to your Tomcat Web Server (Host) and the credentials (User & Password) of the "admin" user in the Tomcat Manager.

**Note: If you forgot the credentials and/or need to reset them, you'll find this information inside the file "tomcat-users.xml" located in the "conf" folder of your Tomcat installation. In a default installation that folder is located at:**

**C:\Program Files\Apache Software Foundation\Tomcat 5.5\conf**

After you've entered the URL, credentials and clicked "Next" you'll get this window:

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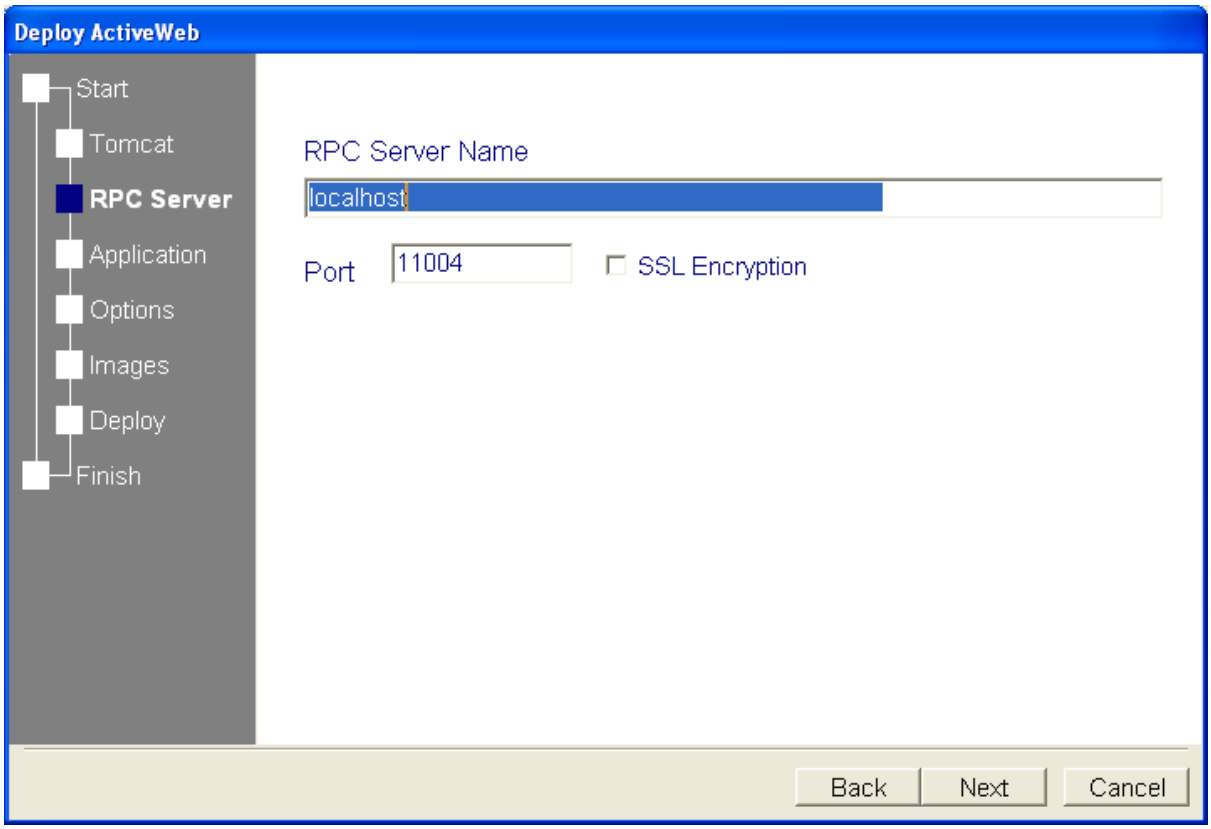


In this window you need to specify the SERVER NAME (or IP address) that hosts the EDC Client RPC SERVER "edcclrpc.exe", the port and wether the RPC SERVER is using SSL encryption or not.

**Note: If you're unsure what these settings are, refer to the startup parameters used to start the EDC Client RPC Server (either command-line parameters or service parameters depending wether the server is running as a process or a service. You can always contact us at support@docudatasoft.com if in doubt.**

When you're done click "Next" to get to the following screen:

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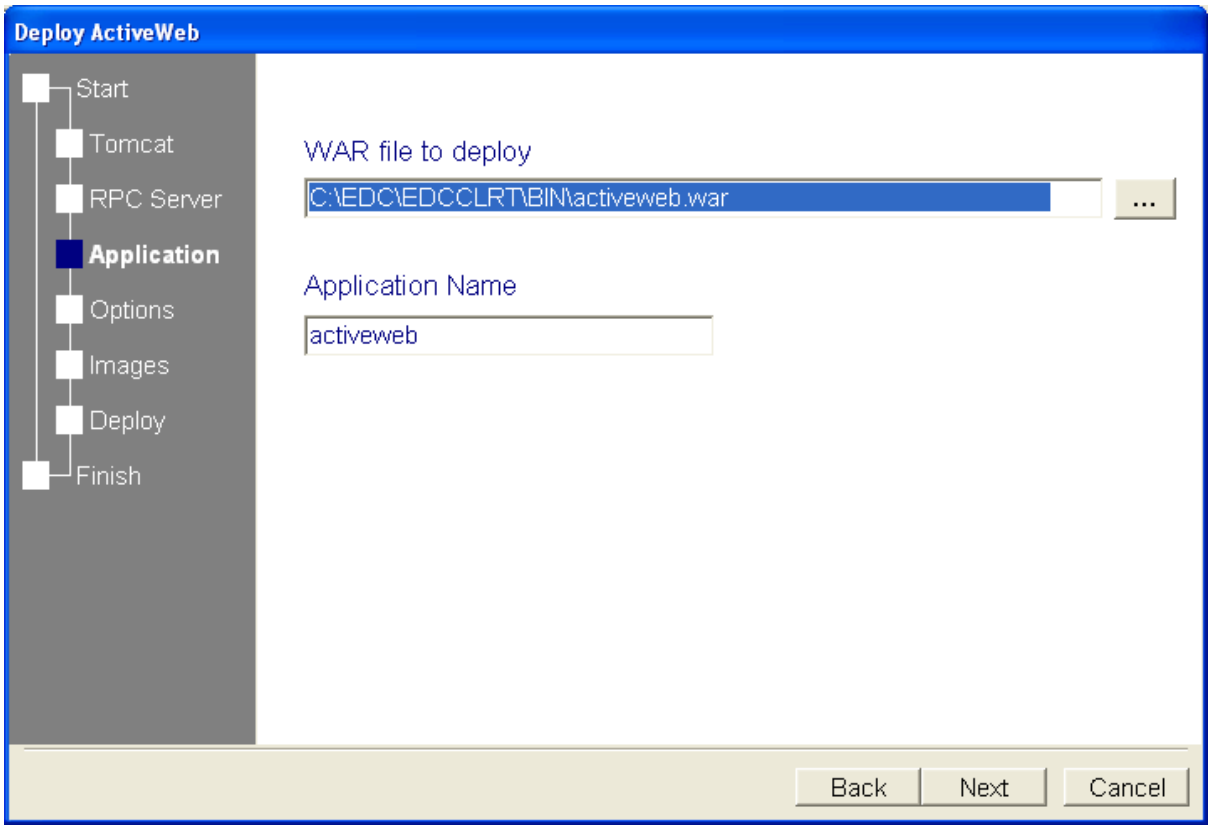


This screen asks you the location of the "WAR file to deploy" as well as the "Application Name". By default the "WAR" file is located in the "bin" folder of your EDC Client.

If you cannot find it there please contact support@docudatasoft.com to get the file. When asking for this file please also indicate what version of EDC Client you are using. You can get this version information by going to the "Help -> About" menu item after launching EDC Client.

The "application name" is the name that will be used in the URL to the application. So for example if you name your application:

the_amazing_web

your URL will be similar to:

http://www.yourdomain.com/the_amazing_web/

**Note: Do not use any space if you choose many words. Use the "_" (underscore) to tie the words together like I've done in the example above (the_amazing_web).**

When you click "Next" you will see this screen:

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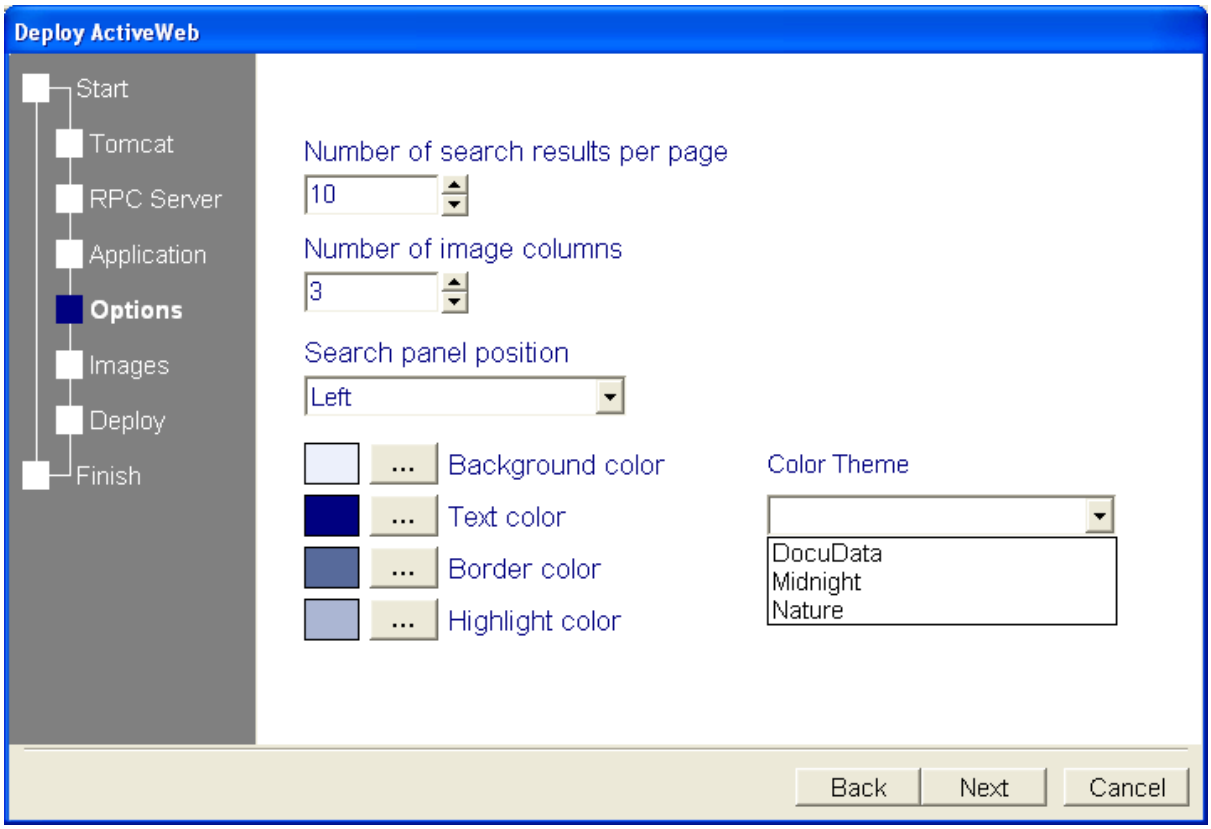


In this page you can customize options like:

- Number of search results per page
- Number of columns for previewing images belonging to Files
- Location of the search panel
- Choosing from 1 of 3 pre-defined color schemes or choose each colors individually

When you click "Next" you will be told where the image folder of your ActiveWeb application resides like so:

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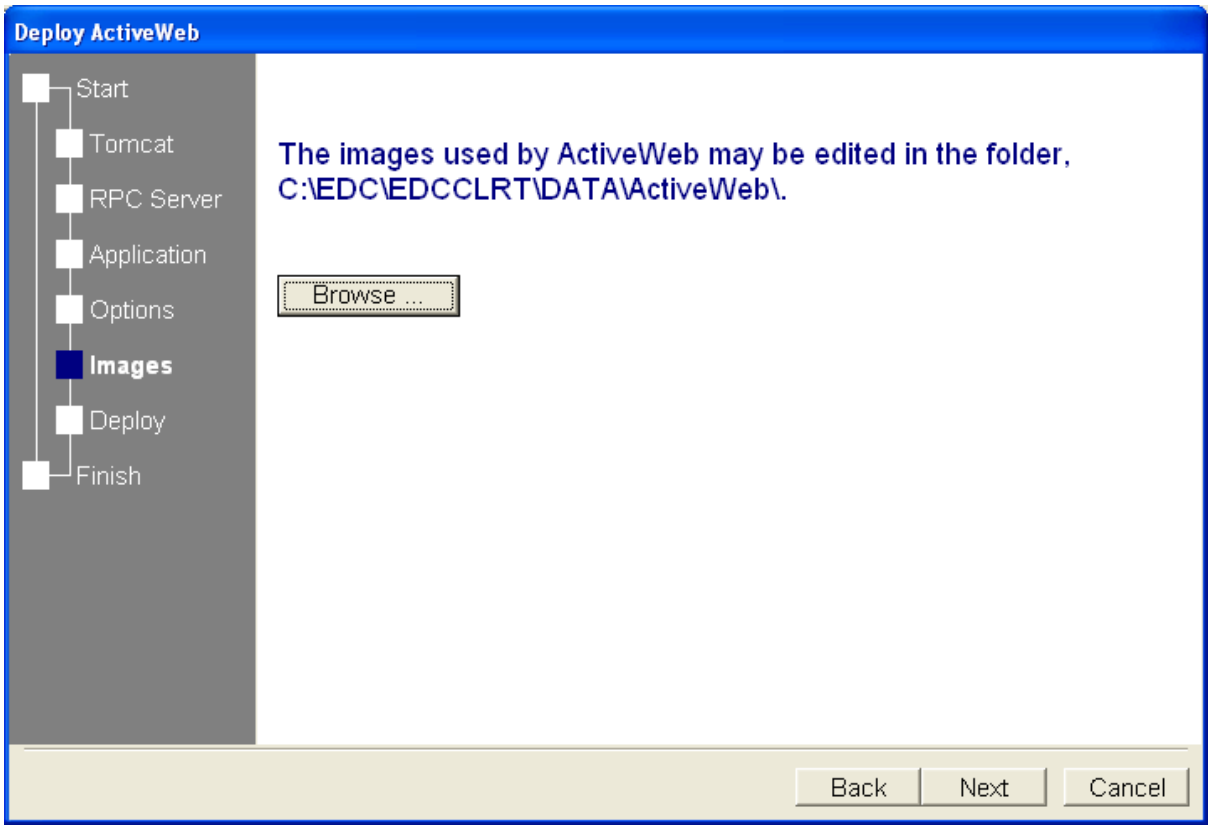


The images in this folder can be modified and will be remembered when you do another update. Then the next screen simply tells you that you are about to deploy ActiveWeb like so:

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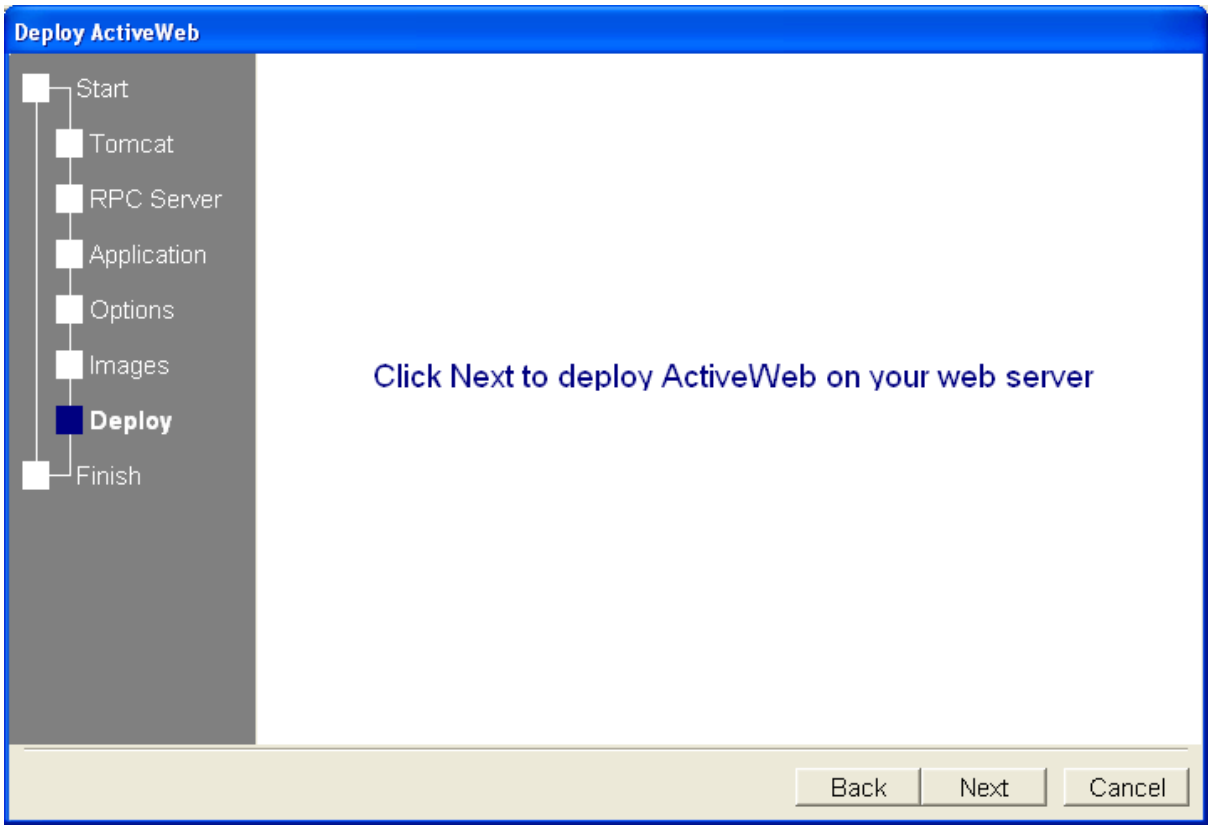
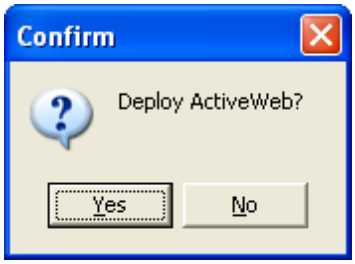



And then a confirmation dialog just in case you change your mind about some options before installing.




If you click "Yes" the wizard will try to connect to the web server to initiate the install. If for some reason it cannot connect you will get a message like so:

You will also receive a warning if the connection is successful but there is active sessions(users) currently in use:

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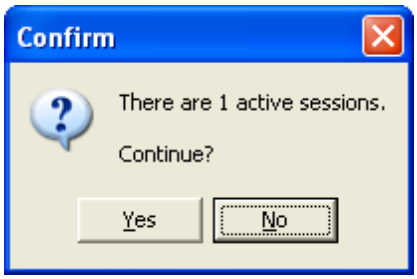
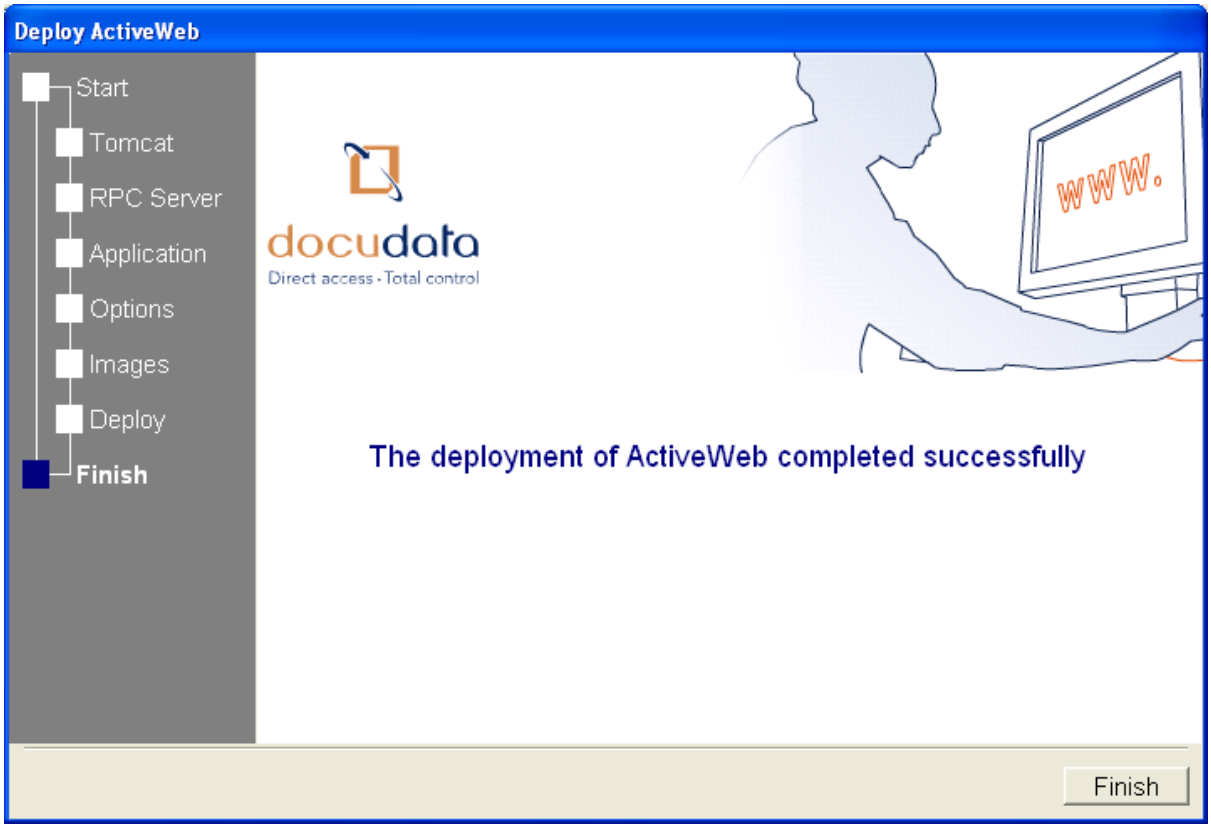



**Note: If you answer "Yes" to this dialog box you will kick out any user from their session and they will have to retry the operations they were trying to make when they got kicked out.**

When the install is complete you will get a window telling you so:




At this point you can simply browse to your ActiveWeb installation to verify that you can login successfully.

This completes the ActiveWeb installation via the Deploy Wizard.

If you have any questions please contact support@docudatasoft.com

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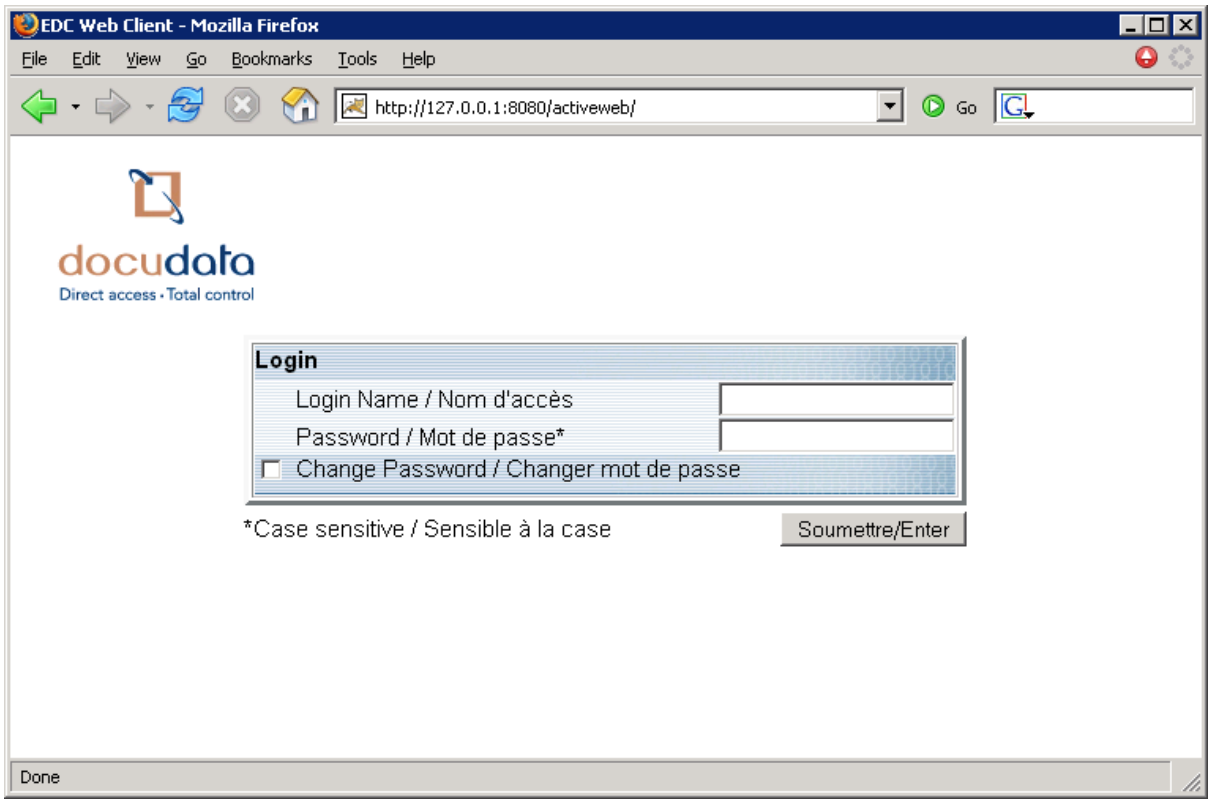
### 2.3.9.6 Running ActiveWeb in a Web Browser

Once the EDC Client RPC server, Java JRE, and Tomcat servlet container, are installed, configured and started, the ActiveWeb web interface can be accessed via a web browser.

If Tomcat is executing on the same computer as the web browser, the ActiveWeb application can be access via the following URL:

http://localhost:8080/activeweb/

If communication is properly established with the EDC Client RPC server the following login page will appear:




Note: All the captions used in ActiveWeb can be modified in the EDC dictionary module.

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#### 2.3.9.7 Integrating SSL Security within Tomcat

If you want to encrypt your communications to and from ActiveWeb you need to configure your Tomcat installation to use SSL (Secure Sockets Layer) security.

The Tomcat documentation explains how to do this. Browse to:

http://tomcat.apache.org/tomcat-5.5-doc/ssl-howto.html

for the instructions.

If you are using Tomcat as a redirection plug in for another web server such as Microsoft's IIS, refer to that other server's documentation for SSL setup.

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### 2.3.9.8 Modifying the session timeout

After a certain amount of user inactivity in a session, ActiveWeb will terminate the session for safety and performance reasons. The timeout is configurable for the whole website, per customer and per user.

**1- Setting the timeout for the whole website**

To set the timeout for the whole website, add the following command line parameter to EdcClRpc.exe:

EdcClService.TimeOut=[number of minutes]

**2- Setting the timeout for a customer**

To set the timeout differently for a particular customer go in the "Customer Information" module of EDC Client and modify the "Web Time Out" to a value (in minutes) of your choice. If you leave the setting at "default" it will use the timeout value that is set for the whole website on the command line as in point # 1 above.

**3- Setting the timeout for a user**

To set the timeout differently for a particular user go in the "Authorized User" module of EDC Client and modify the "Web Time Out" to a value (in minutes) of your choice. If you leave the setting at "default" it will use the timeout value that is set for the customer in the "customer information" as in point # 2 above.

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### 2.3.9.9 Tomcat & IIS

Tomcat can also be used as a plug-in in Microsoft's IIS web server for java-based request processing. It works in a similar fashion as what a cgi script would do:

1- Request is first being received by IIS.
2- IIS determines it is a java-based request.
3- IIS redirect the request to Tomcat for processing.
4- Tomcat returns the processing result to IIS.
5- IIS returns the result to the requesting web browser.

**Note: Tomcat and IIS should be installed in a DMZ separate from your internal network for better security. Some information about DMZ's can be found here:**

http://en.wikipedia.org/wiki/DMZ_host

There is 2 common ways to install Tomcat as an IIS plug-in:

1- Use the free redirector plug-in provided by the Apache Software Foundation.
2- Use a commercial plug-in from a software vendor.

There is 2 common ways to install Tomcat as an IIS plug-in:

1- Use the free redirector plug-in provided by the Apache Software Foundation 85
2- Use a commercial plug-in from a software vendor 86

**Use the free redirector plug-in provided by the Apache Software Foundation**

1. Download isapi_redirect.msi install file from the following link:

ftp://docudatasoft.com/common/Misc/isapi_redirect.msi

2. Ensure that the IIS Admin service is running. Run isapi_redirect.msi with the default options.

3. Open "Internet Services Manager" or "Internet Information Services" from the "Administrative tools" section of the Control
panel.

4. Ensure that a virtual folder by the name of jakarta exists. If not, create a new Virtual directory:
Alias: jakarta
Directory: C:\Program Files\Apache Software Foundation\Jakarta Isapi Redirector\bin
Rights: Read, Run scripts, Execute

6. Open the properties of the web site, which might be called Default Web Site.

7. Add an ISAPI Filter
Name: Jakarta
Executable: C:\Program Files\Apache Software Foundation\Jakarta Isapi Redirector\bin
\isapi_redirect.dll

8. Using a text editor, open

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C:\Program Files\Apache Software Foundation\Jakarta Isapi Redirector\conf
\uriworkermap.properties

and add the following mappings for ActiveWeb:
/activeweb=wlb
/activeweb/*=wlb

9. For IIS 6 and later only:
Add and allow the "isapi_redirect.dll" file as a new web service extension.

10. Try http://[YOU_URL_HERE]/activeweb/index.jsp

If it does not work, restart the "IIS Admin Service" and try again. This can be done in the Windows services, accessible from Start -> Run -> services.msc

**Notes: This has been tested with IIS 5 & 6 and Tomcat 5.5.9 and is expected to work with any subsequent version of those servers.**

**Use a commercial plug-in from a software vendor**

If you find that installing the free plug-in is too complicated for you or you find that you don't have enough time to figure it out there is always some companies that offer their own commercial plug-ins for a fee. These companies can also generally help you out with the installation for an additional fee.

Here is a company that we know provide such services:

http://www.neurospeech.com/Products/JspISAPI.aspx

This is the actual company that one of our client uses with success.

This concludes the section on Tomcat & IIS.

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#### 2.3.9.10 Required Access Rights

ActiveWeb users need to have certain access rights available to them prior to use ActiveWeb in order to use it effectively. Please refer to the section entitled "ActiveWeb" in the EDC Client User's Guide for help on setting those access rights.

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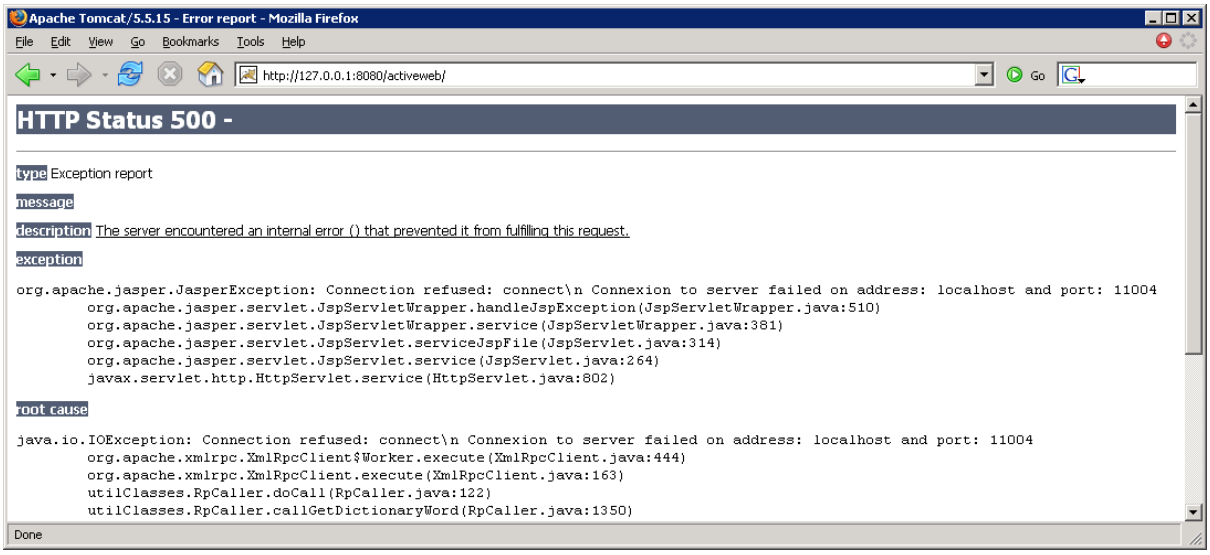
### 2.3.9.11 Troubleshooting

#### Internal error on the login page

If the \activeweb\config.ini file is not configured properly, or the EdcClRpc.EXE process is not running, an error similar to the image below will be displayed when trying to login:




The address and port (as specified in the config.ini file) that the JSP application is trying to connect to is indicated in the error message. To resolve the situation, ensure the EdcClRpc.EXE process is executing, and the \activeweb\config.ini file is properly configured.

#### Images do not appear within ActiveWeb

When displaying images within ActiveWeb, if the images do not appear, as displayed below,

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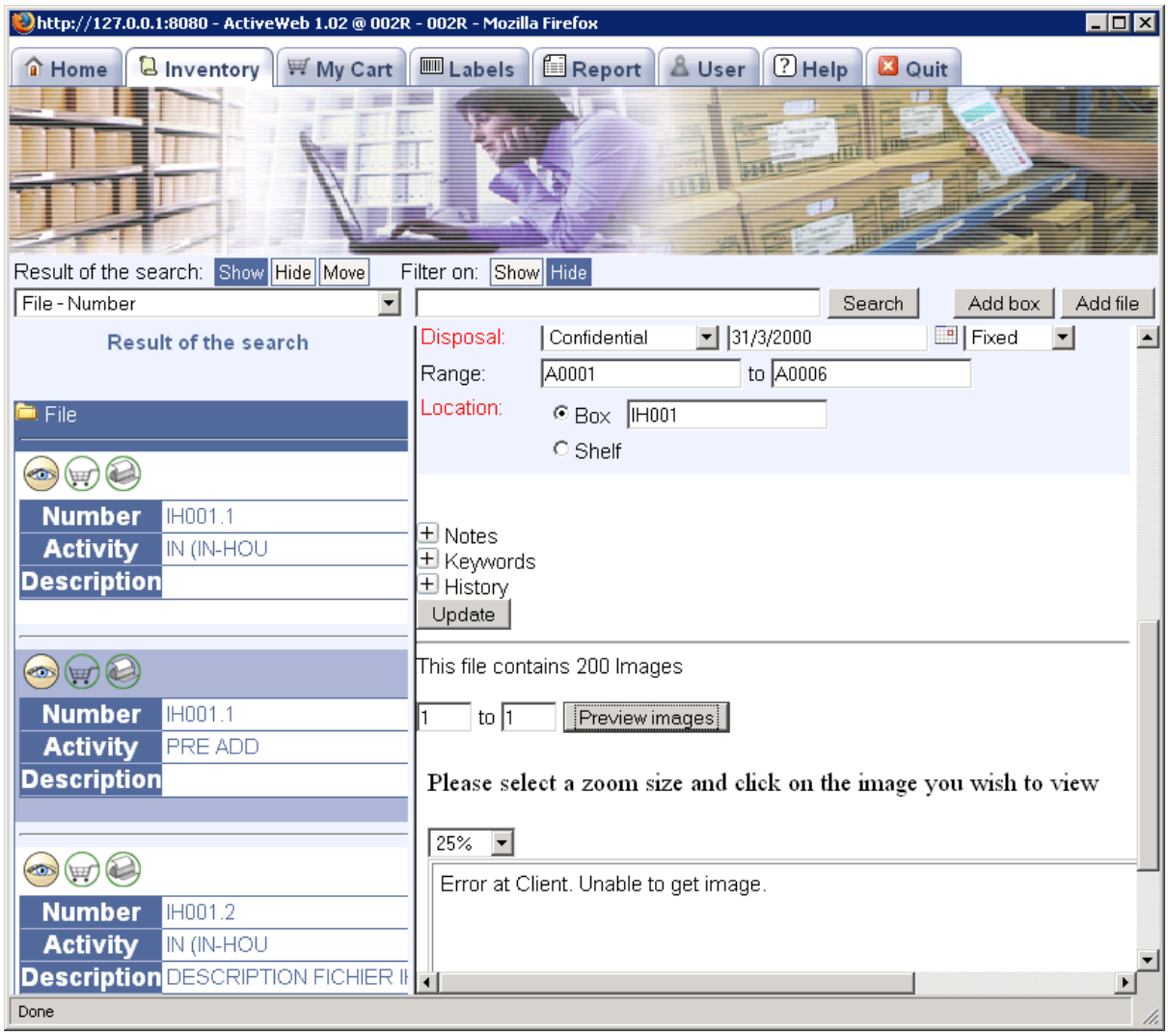


this indicates the EDC Image Server is not executing or not configured properly. See the System Information module to configure the Image Server parameters.

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## 2.3.10 Electronic Document Management Configuration

EDC Client has it's own EDM system built into the software and now Microsoft Office (Word, Excel & Outlook only) can directly interact with it to let you archive your documents into EDC Files (from the File Module).

This section will show you how to properly setup EDM.

**Requirements**

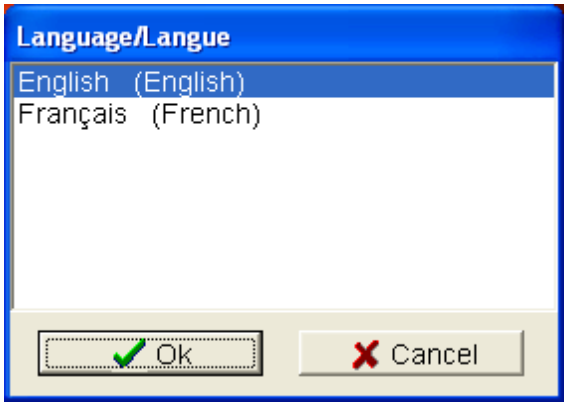
The EDC Client RPC Server (EdcClRpc.exe) must be running for EDM to work. Consult the section "Installing EDC Client Services" 61 for installation details. This server process must be reachable by TCP/IP from the computers where EDM will be installed.

**Installation procedure**

**Note: This setup has to be done for every computer that needs the EDM functionality.**

1. Determine the connection parameters to the EdcClRpc.exe server process. This means the IP address, port number, and whether SSL connectivity is required or not.

2. Browse to the "bin" folder of your EDC Client installation and run the file "EdmSetup.exe". The installer will first prompt you for your preferred language like so:




3- Once your language is chosen you will get this screen:

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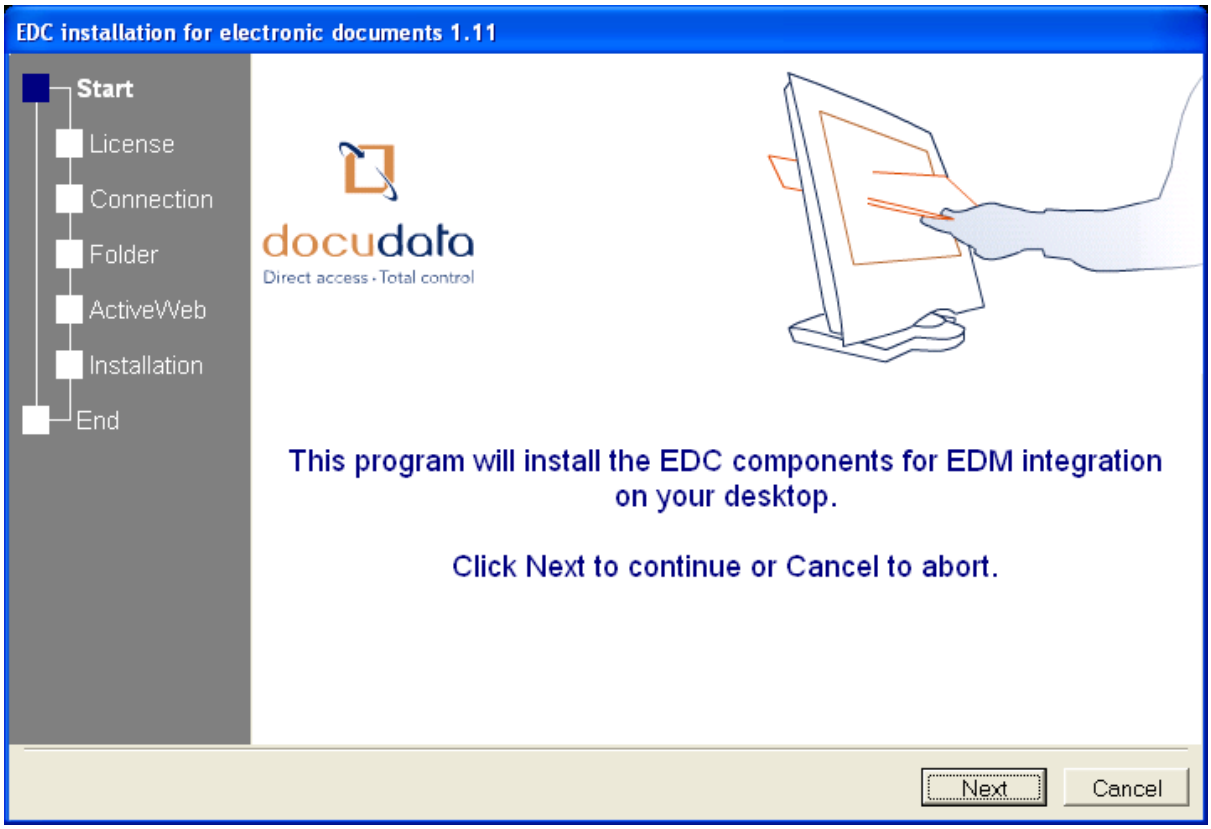


4- Click "Next". You will then be shown the license agreement like so:

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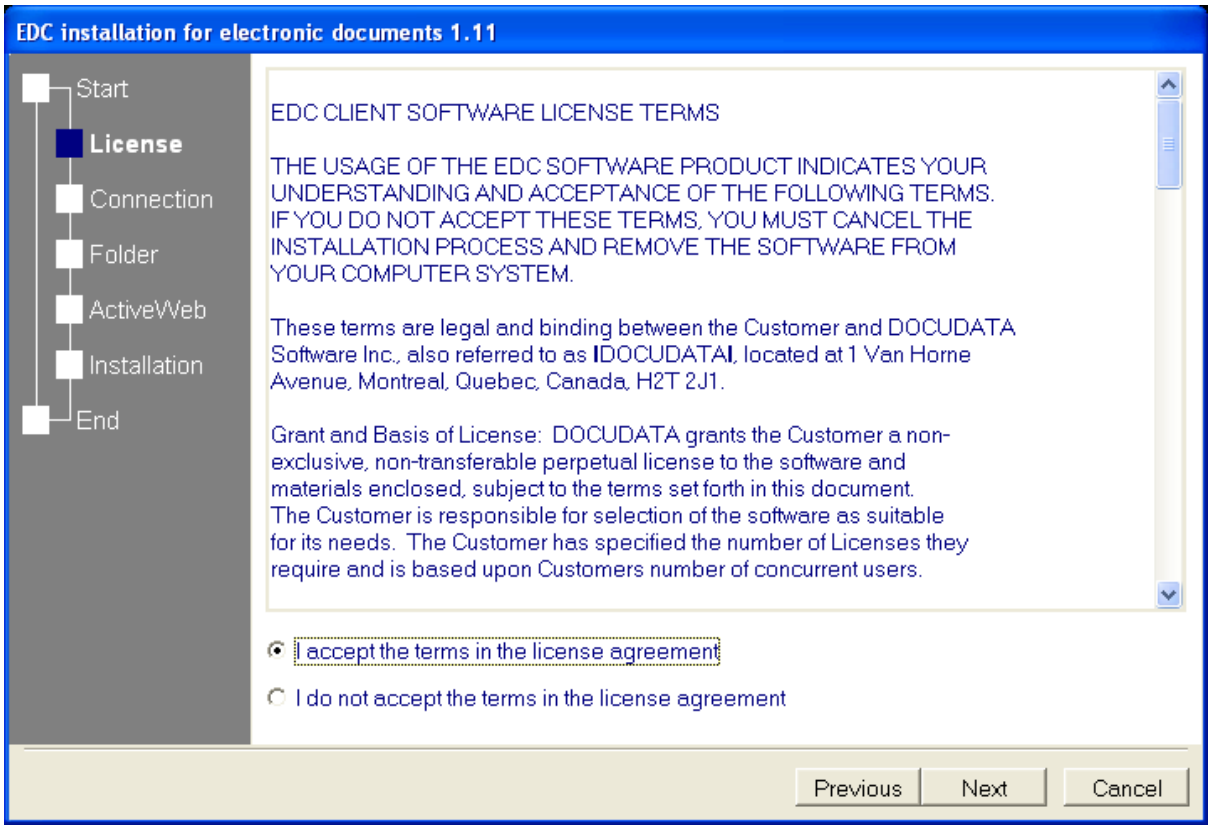
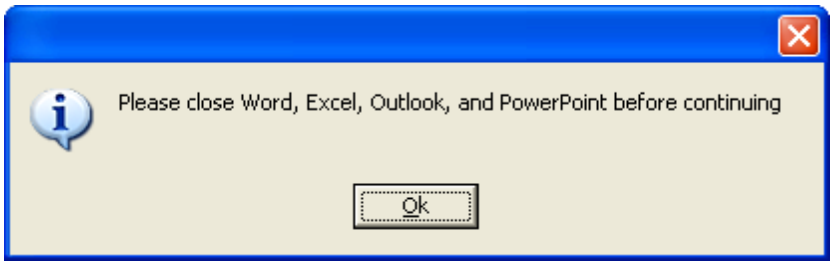

EDC installation for electronic documents 1.11
Start
License
Connection
Folder
ActiveWeb
Installation
End
EDC CLIENT SOFTWARE LICENSE TERMS
THE USAGE OF THE EDC SOFTWARE PRODUCT INDICATES YOUR UNDERSTANDING AND ACCEPTANCE OF THE FOLLOWING TERMS. IF YOU DO NOT ACCEPT THESE TERMS, YOU MUST CANCEL THE INSTALLATION PROCESS AND REMOVE THE SOFTWARE FROM YOUR COMPUTER SYSTEM.
These terms are legal and binding between the Customer and DOCUDATA Software Inc., also referred to as |DOCUDATA|, located at 1 Van Horne Avenue, Montreal, Quebec, Canada, H2T 2J1.
Grant and Basis of License: DOCUDATA grants the Customer a non-exclusive, non-transferable perpetual license to the software and materials enclosed, subject to the terms set forth in this document. The Customer is responsible for selection of the software as suitable for its needs. The Customer has specified the number of Licenses they require and is based upon Customers number of concurrent users.
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Previous
Next
Cancel

**Note: When you click "Next" to accept the License Agreement, you might get the following message if you have any of the following Microsoft Office applications running: Word, Excel, Outlook & PowerPoint:**




5- Accept the agreement and click "Next" to get to the next window like so:

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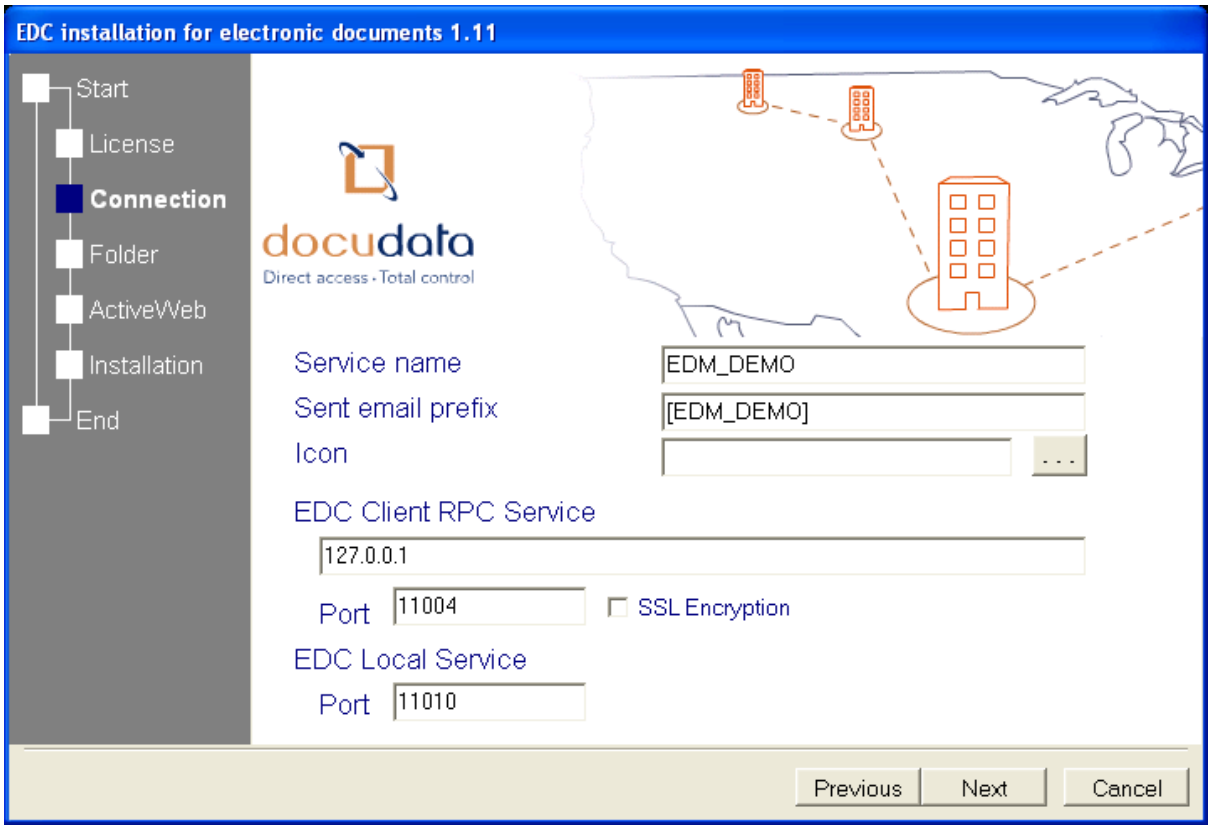


6- Using the information you gathered in step # 1 above, fill in the information in the form. The EDC Local Service port number should not be changed unless it is already being used by another application. The "Sent email prefix" field will be used when sending emails out of EDM. This prefix will be inserted in the "subject" of your email. Once the form is complete click on "Next" to start the installation.

**Note: If your EDC Client RPC Server (edcclrpc.exe) is not running at this point or if the information in the form is not valid you will get the following error message:**

Unable to connect to the EDC client RPC server. Verify the connection parameters.
EIdSocketError
Socket Error # 10061
Connection refused.
Ok

If this is the case make sure your connection parameters are correct and the client RPC server is started. When everything is ok the installation will continue with a window prompting you for the EDC Client installation folder (use the "bin" folder) like so:

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7- After clicking "Next" you will be asked if you wish to install "ActiveWeb support" or not. If you do install this, it will enable you to use EDM functions from within ActiveWeb.

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**Note1: The URL you input here has to be the same URL you are going to use when starting ActiveWeb otherwise the EDM functionality won't work. The Java Security Policy of the EDM applet requires this.**

**Note2: If Java on your computer updates itself automatically (which is the default behavior), you will need to re-run this setup for the EDM functionality to work again inside ActiveWeb. The other alternative would be to disable the Java Updates on your computer.**

8- Click "Next" to continue. The installation will start like so:

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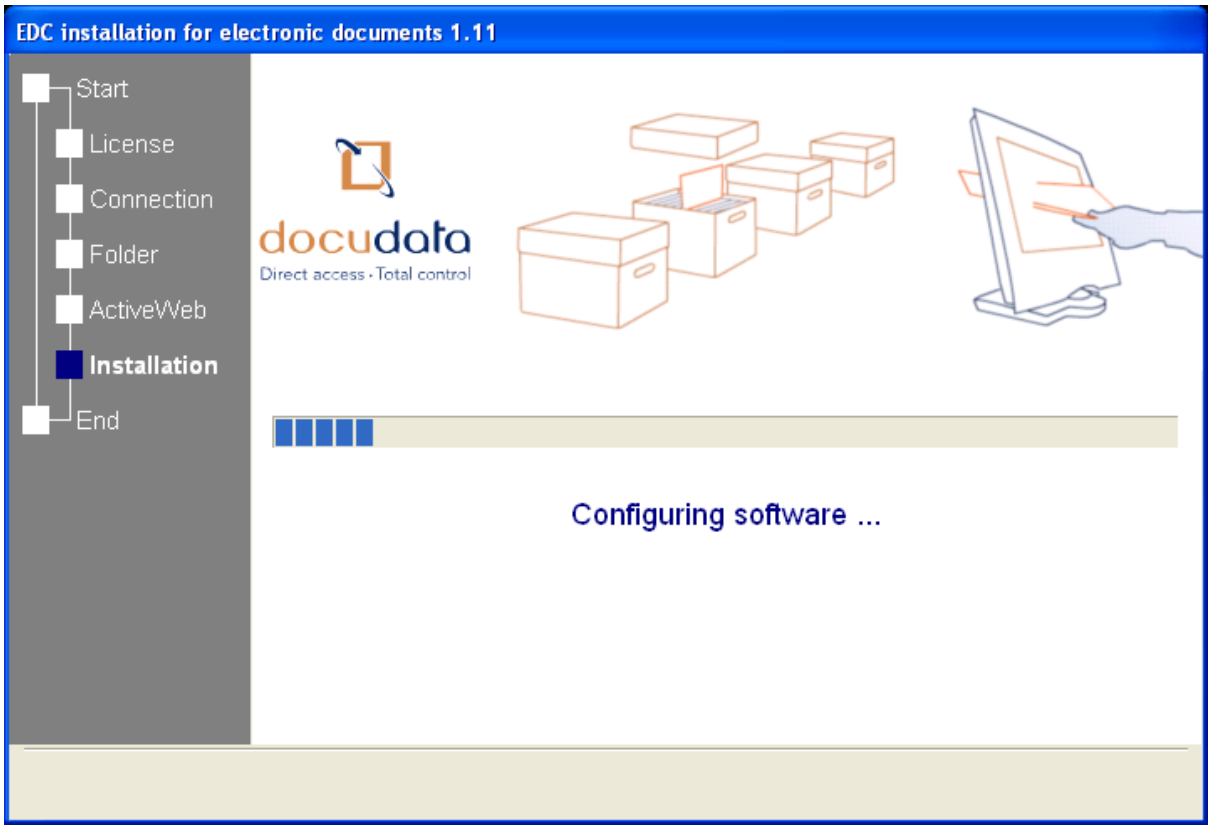


9- Once the installation is complete you will get a window like this:

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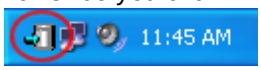
10- Once you click "Finish" the "EDC Local Service" icon will appear as a tray application like so:




**Note:** There is also some settings in the system information and authorized user modules that first need to be setup before EDM can be used. Please refer to the "Important Note" 32 section of the "Configuraton of EDC Client" page for more information.

The Electronic Document Management configuration is now complete and ready to use. You can download the "EDC Client Quick Start Guide" from:

ftp://docudatasoft.com/client/manuals/english

to have a quick overview of how to use EDM.

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### 2.3.11 EDC Viewer Configuration

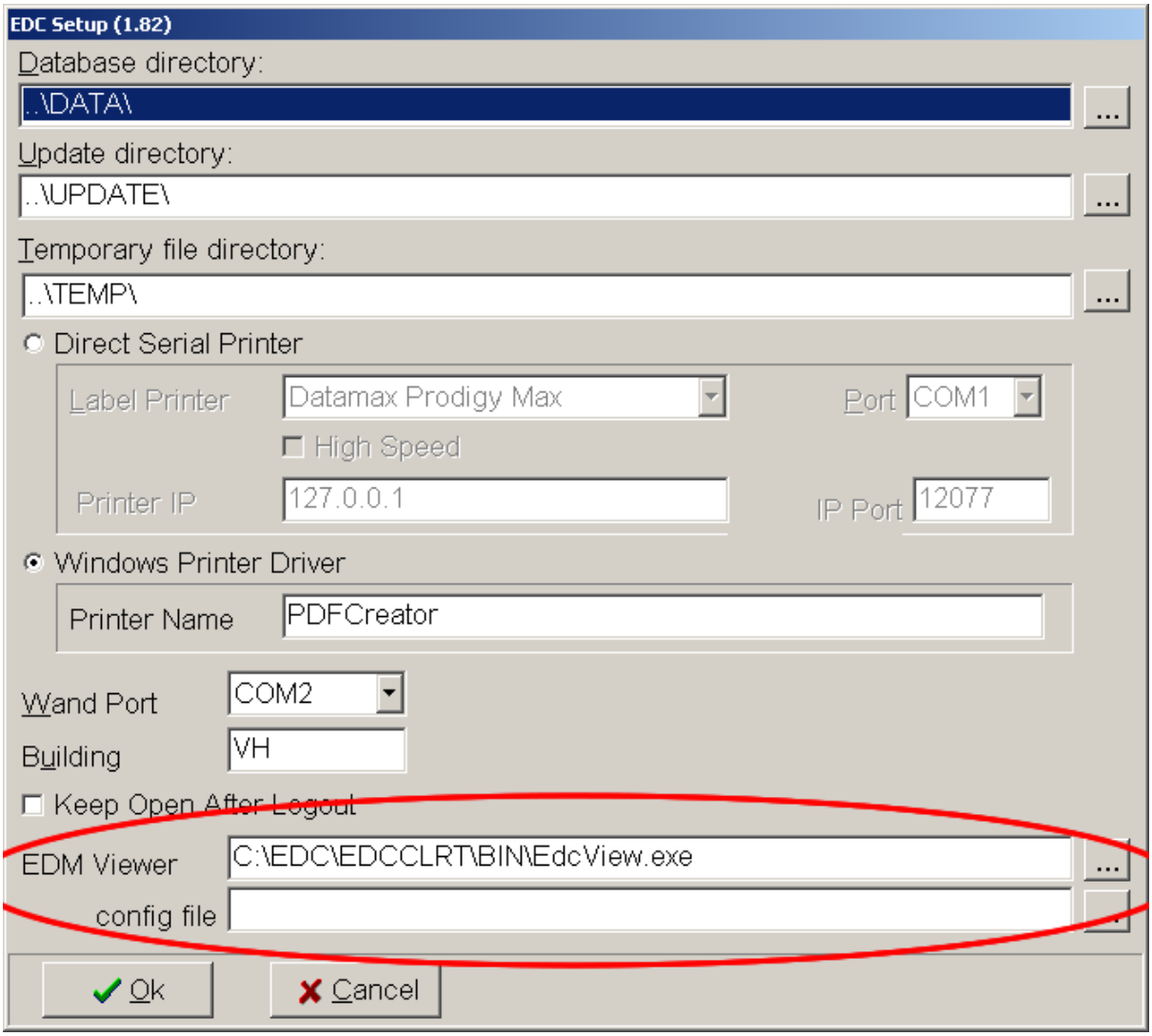
EDC Client now has a multi-document viewer (EDCView) built into the software that you can use if you wish.

**Note: This multi-document viewer is only available in the SAE edition of EDC Client.**

**Steps to install the viewer**

All you need to do really is configure the dc.cfg file to tell EDC where to find the viewer.

1- Open the file "dcsetp32.exe" in the "bin" folder of your EDC Client installation to edit your "dc.cfg" file. You'll see a window similar to:




As you can see in the red-circled area, you need to indicate where the EDCView executable file is located. By default that file is also located in the "bin" folder of your EDC Client installation. The location of the config file (EdcView.ini) is optional if it is located in the same folder as the EDCView executable. In other words you only need to specify it's location if it is NOT located at the same place as the viewer

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executable.

The viewer will look for the .ini file in the order,

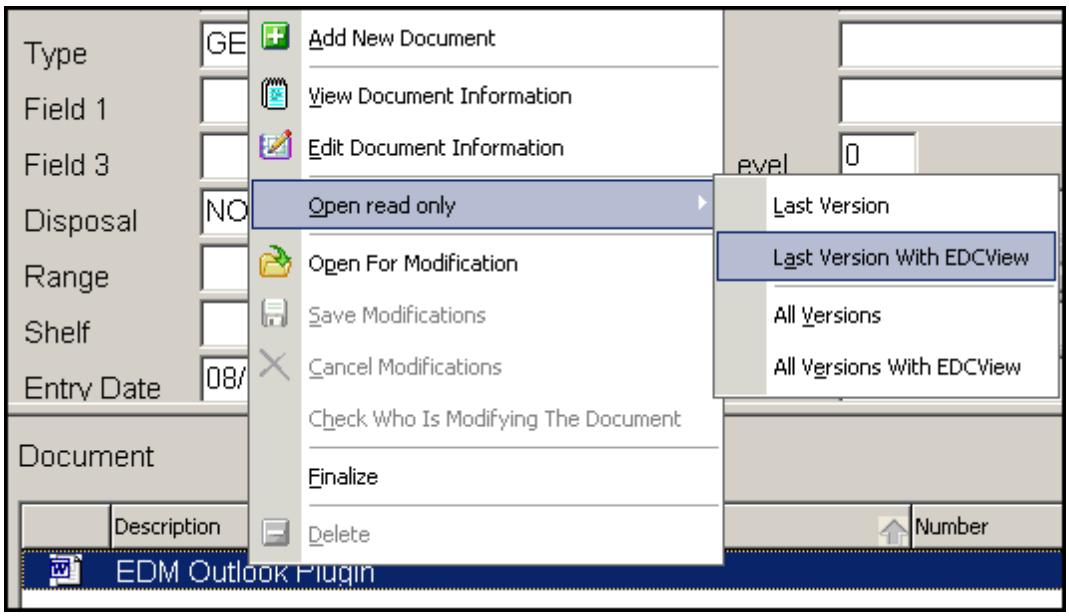
1. If specified with the parameter "cfgfile=c:\edcview\edcview.ini" when launched (path is fictional here)

2. If not specified with cfgfile=, it will look in the same folder that the EdcView.Exe file is located.

**Note: EdcView will still run without a configuration file.**

**How to use EDCView**

Once configured the viewer is simply started from the "Document" section (bottom of the page) of the "File" module in EDC Client. You can simply right-click on any document and view it with the viewer like so:




Once the viewer is started it will look something like this:

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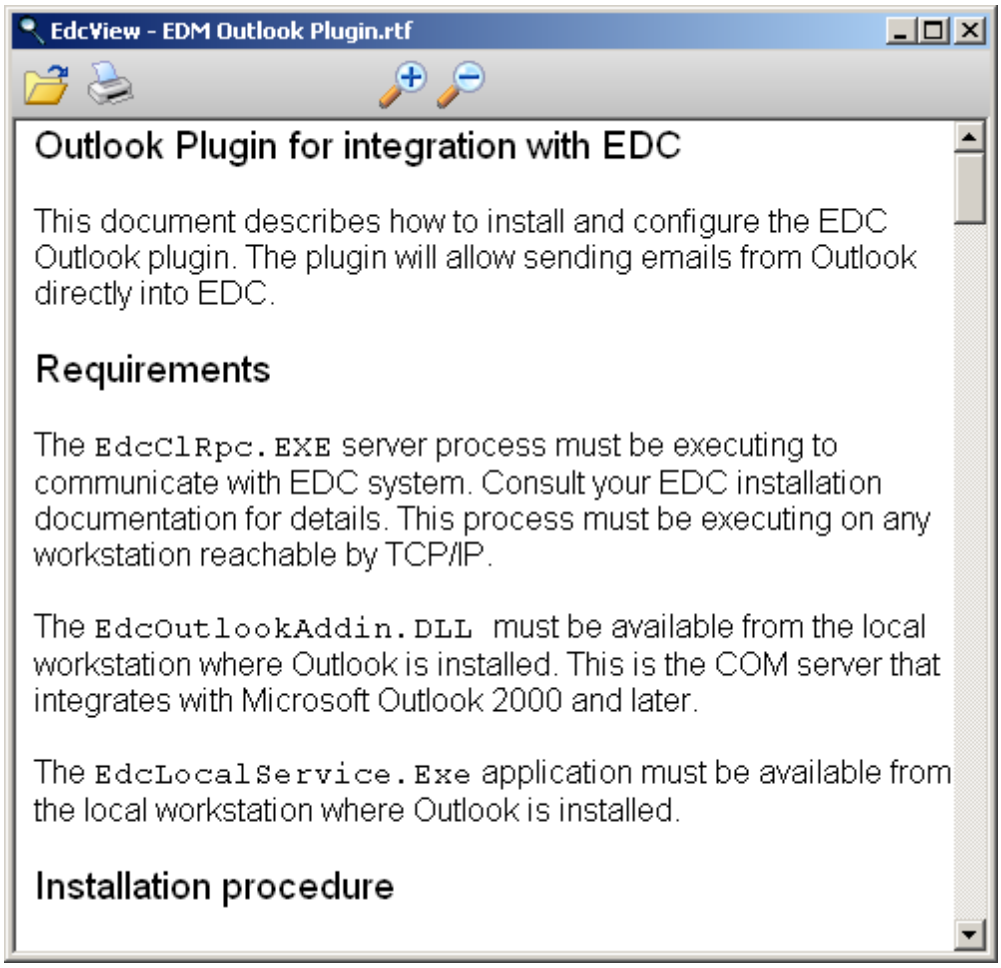
EdcView - EDM Outlook Plugin.rtf
Outlook Plugin for integration with EDC
This document describes how to install and configure the EDC Outlook plugin. The plugin will allow sending emails from Outlook directly into EDC.
Requirements
The EdcClRpc.EXE server process must be executing to communicate with EDC system. Consult your EDC installation documentation for details. This process must be executing on any workstation reachable by TCP/IP.
The EdcOutlookAddin.DLL must be available from the local workstation where Outlook is installed. This is the COM server that integrates with Microsoft Outlook 2000 and later.
The EdcLocalService.Exe application must be available from the local workstation where Outlook is installed.
Installation procedure

This concludes the section on EDCView! Happy Viewing!

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# 3 Update Guide

This section will show you how to update an already working version of EDC Client. Three different updates have to be performed:

- EDC Client 102
- ActiveWeb 104
- PDT 155

Just follow the pertinent links above for instructions.

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## 3.1 Updating EDC Client

This section will guide you in the update process of EDC Client.

**It is of utmost importance that you read this section thoroughly before attempting an update of EDC Client. Failure to do so can result in unpredictable behavior of EDC Client or worst, could irreparably damage your current installation and/or data.**

**STEPS YOU NEED TO DO BEFORE STARTING THE UPDATE PROCESS**

1- Download the update file (zip file) if you don't have it already. Here is the link:

ftp://docudatasoft.com/client/update/

2- **Make sure you have a recent and functioning backup of you whole EDC Client installation** (including the data if on a different server).

3- Make sure no workstations are running EDC Client.

4- Close all EDC services and/or processes running.

**HOW TO PERFORM THE UPDATE PROCESS ITSELF**

1- From the zip file you just downloaded, extract the file called "Update.exe" and put it in the "bin" directory of your EDC Client installation. Overwrite the older file if prompted to do so.

2- Put the zip file itself in the Update directory of your EDC Client installation.

3- Run the Update.exe file and follow the prompts until the update is finished.

**Note**: Once the update is complete, the update file will be renamed with a .Z!# extension. You may want to keep it, this will enable you to recuperate specific files of the update if needed later on.

**Note**: The results of the update are saved in a file called UPDATE.LOG in the Update directory of your EDC Client installation.

4- Install (if needed / optional) the new replication by following the instructions located in the section called "Installing and Testing Replication" 45 earlier in this manual (install guide).

5- Install/Update (if needed / optional) ActiveWeb by following the instructions located in the next section called "Updating ActiveWeb" 104.

6- Update your PDT's by following the instructions located in the section called "Updating your PDT" 105.

7- Configure the EDC Viewer component (if needed / optional) by following the instructions located in the section called "EDC Viewer Configuration" 98.

8- Configure the Electronic Document Management Integration (if needed / optional) by following the instructions located in the section called "Electronic Document Management Configuration" 90.

9- Either restart your computer or just the services/process of EDC and Tomcat depending on your situation. (You probably won't want to restart your whole computer if you have other applications running

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on it that have users connected to. For example a web server.) If you only need to restart the processes of EDC Client in the event that you don't have them installed as services, here's the executable names you should be looking for inside the bin folder of your installation:

- EdcCLRpc.exe (for EDM & ActiveWeb)
- ImgSer32.exe (if using imaging)
- replicator.exe (if using the new replication)
- EdcReq32.exe and edcreqip.exe (if using the old replication)

10- Test your new update by starting EDC Client and running ActiveWeb.

Hopefully everything went smooth and well for you and you didn't have any problems. However if you did have some problems, don't hesitate to contact us straight away by telephone at 1-866-789-2789 for North American customers, (514)789-2789 for customers outside North America or by email at support@docudatasoft.com .

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## 3.2 Updating ActiveWeb

The update method for ActiveWeb is the same as for installing it so please refer to the section "Installing ActiveWeb via the Deploy Wizard" 73 earlier in this manual.

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## 3.3 Updating your PDT

The update method for the PDT is the same as for installing it so please refer to the section "Portable Data Terminal (PDT)" 155 in the Technical Guide.

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# 4 Technical Guide

This part of the manual aims at giving you some technical information that might be useful to you for understanding how EDC Client works.

As such, it is more of a reference into the inner workings and relations between the different processes of EDC Client. This can be quite useful for the more technically inclined personnel who wish to understand more in-depth the "why's" of EDC Client.

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## 4.1 Pervasive Database Software

This part of the manual gets into the nitty gritty details of the Pervasive Database. If you need more information about Pervasive you can visit their website at www.pervasive.com .

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### 4.1.1 The Pervasive Control Center(PCC)

The Pervasive Control Center(PCC) is one the tools most often used for the maintenance of the Pervasive Database. You can find documentation on how to use it under the chapter "Using Pervasive PSQL Control Center" in the Pervasive User's Guide that comes with your installation or online at:

http://www.pervasive.com/library/docs/psql/870/usrguide/usrguide-04-01.html (For Pervasive 8.x)

http://www.pervasive.com/library/docs/psql/910/usrguide/usrguide-04-01.html (For Pervasive 9.x)

Pervasive also contains other utility programs to help you manage other aspects of the database. These utilities are:

- Function Executor
- License Administrator
- Maintenance
- Monitor
- Rebuild
- Pervasive System Analyzer
- ODBC Administrator

Refer to your Pervasive documentation for the use of these utilities.

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## 4.1.2 Differences Between Engine Types and Pervasive Versions

**Differences between the server and workgroup engine in version 9 of Pervasive**

**Platforms**

The NetWare and Linux engines are server engines only. Our Windows server engine and the Workgroup engine require a Windows 32-bit platform.

**User Interface**

While the Windows server engine runs as a service, the Workgroup engine is started as a regular process that has a tray icon for an interface. It must be put into the startup folder if there is local data to be shared.

**Network Connections**

The Windows server engine can use Named Pipes for operating system level file security and establishing connections. Since Windows 98/ME does not allow the creation of named pipes, the workgroup engine uses NetBIOS as a connection protocol.
Authentication and Btrieve Security Policies

The server engine enforces file permissions set up in the operating system. The Workgroup engine does not authenticate users on its own. With the Workgroup engine, if you can see the computer on the network, you can get to the data. This relaxed security is intended for small offices where security is not an issue and ease of use is.

A behavior difference between the Server and Workgroup engines with regard to this lack of OS authentication on the part of the Workgroup engine is that the Mixed security policy for Btrieve is the same as the Classic security policy.

**Gateway Support**

The Workgroup engine creates locator files everywhere it opens files, allowing the engine to dynamically adjust gateway ownership on a day-to-day basis. By default, the Workgroup engine also runs under a user ID, which can be authenticated on other computers and network devices. The Server engine runs as system services. The services typically do not have access rights to files on other computers or network devices. Therefore, replacing a Workgroup engine with a Server engine as a gateway in a workgroup environment is not supported.

**User Counts**

The server engines start at 10 concurrent connections and the Workgroup engine starts at 5.

**Asynchronous I/O**

The server engine for Windows makes use of Asynchronous I/O. This feature can provide a significant performance advantage.

**Differences between the server and workgroup engine in version 8 of Pervasive**

**Platforms**

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The NetWare and Linux engines are server engines only. Our Windows server engine requires Windows NT or Windows 2000. The Workgroup engine runs on any 32 bit Windows platform.

**User Interface**

While the Windows server engine runs as a service, the Workgroup engine is started as a regular process that has a tray icon for an interface. It must be put into the startup folder if there is local data to be shared.

**Network Connections**

The Windows server engine can use Named Pipes for operating system level file security and establishing connections. Since Windows 98/ME does not allow the creation of named pipes, the workgroup engine uses NetBIOS as a connection protocol.

**Authentication and Btrieve Security Policies**

The server engine enforces file permissions set up in the operating system. The Workgroup engine does not authenticate users on its own. With the Workgroup engine, if you can see the computer on the network, you can get to the data. This relaxed security is intended for small offices where security is not an issue and ease of use is.

A behavior difference between the Server and Workgroup engines with regard to this lack of OS authentication on the part of the Workgroup engine is that the Mixed security policy for Btrieve is the same as the Classic security policy.

**Gateway Support**

The Windows server engine creates locator files in remote directories where it opens files. This behavior allows it to be a designated gateway for remote files. The workgroup engine creates locator files everywhere it opens files, allowing the workgroup engine to dynamically adjust gateway ownership on a day-to-day basis.

**User Counts**

The server engines start at 10 concurrent connections and the Workgroup engine starts at 5.

**Asynchronous I/O**

The server engine for Windows makes use of Asynchronous I/O. This feature can provide a significant performance advantage.

## Differences between version 8 and 9 of Pervasive

There is a lot of new features in Pervasive 9 but we won't cover them here. The Pervasive website has all this information for you here:

http://www.pervasive.com/library/docs/psql/910/whatsnew/whatsnew-2-01.html

That said, the most important feature relating to EDC Client with this new release is that Pervasive 9 allows you to have individual database tables up to 256Gb(Pervasive 9 SP2) instead of 64Gb for

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Pervasive 8 and most importantly you have the option to have your table to NOT fragment over 2Gb as was the case in Pervasive 8. This has the effect of reducing hard disk I/O and hence improve performance. Note that to take advantage of this you have to run Pervasive on an NTFS partition since FAT32 partitions can only support files with a size of no more than 4Gb.

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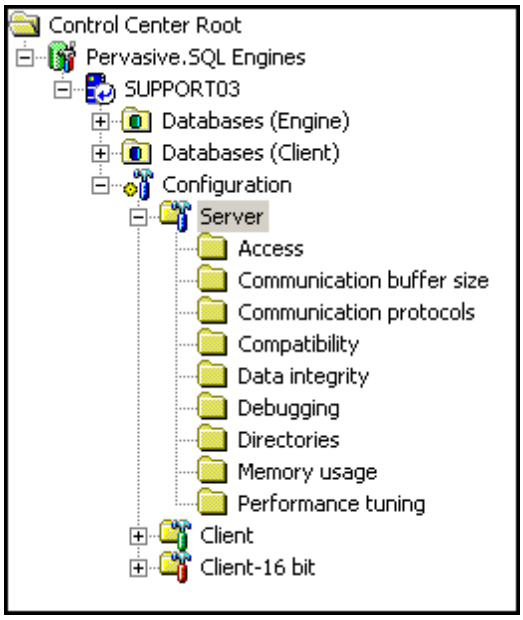
### 4.1.3 Optimized Pervasive Settings

In general Pervasive's settings don't need to be modified. However, there are options that we suggest you change in order to optimize Pervasive. Included herein are the settings appropriate for servers 112 and workstations 115.

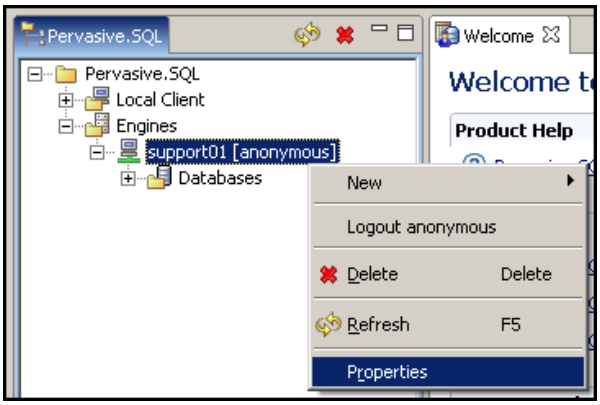
These settings apply to Pervasive versions 8.x up to version 9.x unless otherwise noted and are editable directly from the Pervasive Control Center. **Note that these settings CANNOT be set via a remote desktop connection.**

**SERVER SETTINGS**

To access the server settings inside the control center, browse to Configuration -> Server as shown below :




**Pervasive 8 Control Center**




**Pervasive 9 Control Center**

Here's the server settings that you can change. The settings will be described from top to bottom as seen in the picture above (From Access to Performance Tuning).

**Access**

- Allow Cache Engine connections: on

This option specifies if the server will support clients that will attempt to connect to the server with the client cache engine. When set to Off, clients will still connect to the Server but will not use the client cache engine.

**Communication protocols**

- Enable auto reconnect :on

This setting specifies whether you want the server to support clients attempting to auto-reconnect during a network outage.

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- Supported protocols: TCP only (if using TCP of course)

This setting specifies the protocols on which the database engine listens for client connections. If more than one protocol is specified, the database engine listens on all specified protocols and slows down the initial connection time.

**Data integrity**

- Transaction Durability = On

When turned ON this feature will slowdown the speed of your database operations a bit but will ensure better recoverability of your data in the event of a system crash or other unanticipated problems. When turned off it's the opposite: faster database operation but no guarantees as to the state of your data if something goes wrong.

Here at DocuData we recommend setting this option to ON.

**Memory Usage**

- System cache: Off

Using the Windows system cache adds more overhead in general. If the Pervasive cache allocation size 113 is large enough, there is no need for the system cache.

**Performance Tuning**

- Cache Allocation Size: Between 20% and 40% of your total physical memory size.

This setting is dependant on many factors(Database file sizes, total amount of physical memory, how many applications are running on the machine etc...).

Here is what the Pervasive documentation says on the issue (important to read):

*"Speaking very generally, overall performance is usually best when the Cache Allocation Size is a value less than 40% of the physical memory on the system, and the Configuration setting Max MicroKernel Memory Usage 114 is set to a value greater than 40%. Your exact optimal settings will depend on the size of your data files, the number of other applications running on the system, and the amount of memory installed in the computer.*

*Server Engine*

*On Windows, this setting is initially set to 20% of physical memory by the database engine the very first time it starts up, and it writes that value to the Registry. After that, whenever the engine starts up, it reads the value from the Registry. Changing the value using Configuration updates the value in the Registry. If you add or remove memory from the system, you must modify this setting to take best advantage of the new amount of memory available.*

*To optimize your performance, allocate a cache size no larger than the sum of the sizes of the files you are using. However, be careful not to take all available memory, especially when the server is running other applications. You cannot improve performance-and may waste memory-by specifying a value higher than you need.*

*Workgroup Engine and Client Cache*

*The database engine initially sets this value the very first time it starts up, and it writes the value to the Registry. The value is set to 20% of physical memory, up to a maximum of 32 MB. After the Registry*

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*setting is initialized, whenever the engine starts up, it reads the value from the Registry. The engine never re-calculates the setting. Changing the value using Configuration updates the value in the Registry. If you add or remove memory from the system, you must modify this setting manually to take best advantage of the new amount of memory available.*

*This information also applies to the client software (client cache) if the Configuration setting Client | Performance Tuning | Use Cache Engine is turned on."*

- Max Microkernel Memory Usage: 50

This setting works in conjunction with the Cache Allocation Size setting just above. Refer to the Pervasive Documentation if you need more info.

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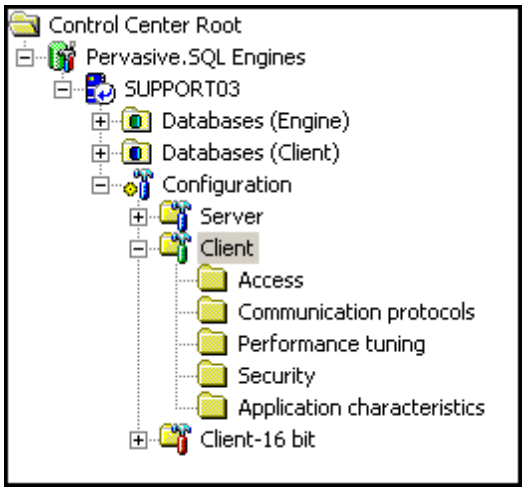
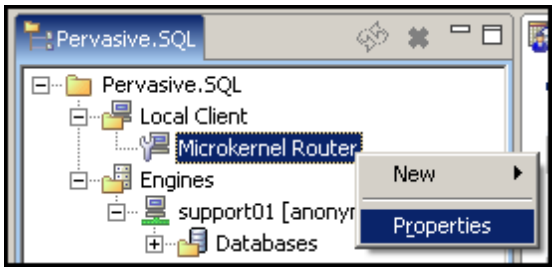
## WORKSTATION SETTINGS

To access the server settings inside the control center, browse to Configuration -> Client as shown below :




**Pervasive 8 Control Center**




**Pervasive 9 Control Center**

Here's the server settings that you can change. The settings will be described from top to bottom as seen in the picture above (From Access to Application characteristics).

### Communication protocols

- Enable Auto Reconnect : On

This setting specifies whether you want the client to attempt to auto-reconnect during a network outage.

- Supported protocols: TCP only (if using TCP of course)

This setting specifies the protocols on which the database engine listens for client connections. If more than one protocol is specified, the database engine listens on all specified protocols and slows down the initial connection time. When the first protocol succeeds, that protocol is used for the remainder of the session.

### Performance Tuning

- Use cache engine: On

This setting specifies whether the client cache should be used. If this setting is Off, then the client caches single records in a relatively small fixed-size cache on the client workstation. If this setting is On, then the client uses the client cache engine, if it is loaded in memory. If the client cache engine is not loaded, this setting has no effect.

The client cache is similar in many ways to the Workgroup engine. By default, it auto-loads into memory when an application first accesses the database, and it unloads a few minutes after that application is stopped. After the client cache engine starts, a tray icon appears, allowing you to control the client cache from the Windows task bar.

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Some users may wish to keep the client cache in memory at all times, to avoid the performance cost of re-populating the cache with each usage session. If you want to keep the client cache loaded, simply run it from the Pervasive program group menu before you start any applications that use the database engine.

To run the client cache, choose Start ➔ Programs ➔ Pervasive.SQL ➔ Engines ➔ Cache Engine.

To stop the client cache, right-click on the client cache tray icon and choose Stop Engines and Exit.

Pervasive.SQL keeps the client cache fully synchronized with the database engine cache and other client cache locations. This behavior is entirely transparent, meaning that you should never need to worry about what records are or are not in any given client cache.

The following operations are not stored in the client cache:

- everything inside a transaction
- operations with a lock bias
- write operations such as insert, update, delete
- opens and close operations

**NOTE:** This setting has no effect if the "Allow Cache Engine connections" on the server is set to off.

**A few other important things about Pervasive:**

- If you cannot afford any downtime in the event of a system failure, Pervasive Data Exchange offers replication that can offer hot backup. Having a slave site can also be used to run reports against, without slowing down the main site with large queries.

- If your business runs 24x7, continuous operations can be used. Pervasive also has a backup agent for popular backup software, but butil -startbu can also be used.

- If you are using Pervasive version 9, we strongly suggest rebuilding all tables in version 9, as that feature does not segment files over 2Gb (Like the older versions do) and allows file sizes up to 256Gb (Version 9 with Service Pack 2 Installed). Gives better overall stability and performance.

- Defrag your server and workstation hard disks every 3-6 months for optimum performance.

Hopefully these extra settings and tips will be of help to you if you ever feel the need to change Pervasive's default settings. For more information on Pervasive, please read the help manual that comes with your installation.

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### 4.1.4 Pervasive Workgroup as a service

Pervasive Workgroup doesn't run as a service by default. Although the Workgroup engine runs fine on client machines with its default installation options, it is our observation that for server installation this engine is more reliable when installed as a service. Not only that but users don't need to be logged in the system for Pervasive to run as opposed to a regular install.

**Note: These steps assume that Pervasive Workgroup is already installed and running on your machine.**

**Note:** In order to install the Workgroup engine as a service you will need to download "pvsw.exe" from the following link:

ftp://docudatasoft.com/common/Pervasive/Pvsw.zip

**Steps to install as a service**

1- Make sure no one is using EDC.

2- Shutdown the Pervasive Workgroup engine by right-clicking on it's icon in the taskbar and go "Stop Engines and Exit".

3- Take the "pvsw.exe" file from inside the zip file you just downloaded and put it in the "bin" folder of the Pervasive installation which by default is located in:

C:\PVSW\bin

4- Execute "pvsw.exe". You will get a window like so:

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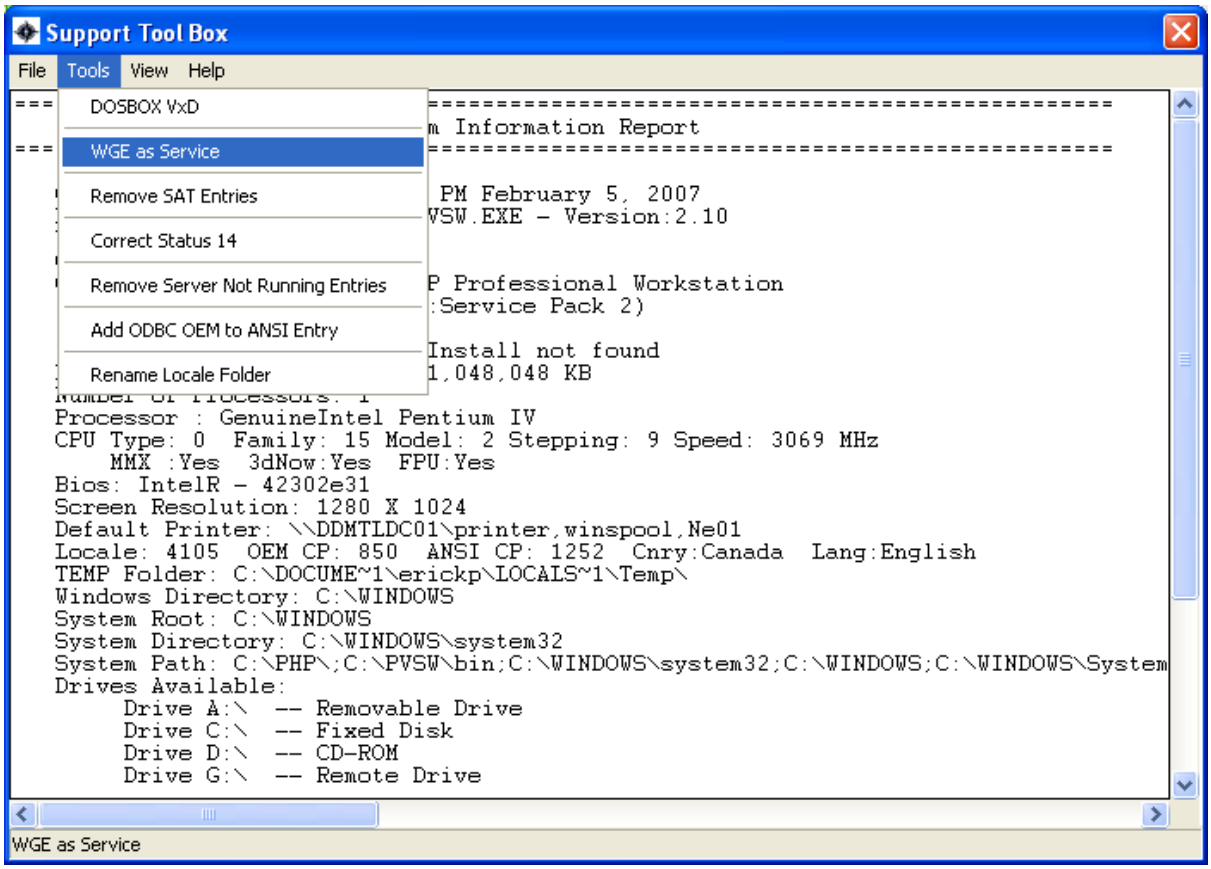


5- Select the "WGE as Service" menu item like shown in the picture above. Another window will then open like so:

6- Now simply press the "Install Service" button to start the install.

**Note: Do NOT select the "-BTRV Only Option".**

7- Once the install is complete you will get a message like so:

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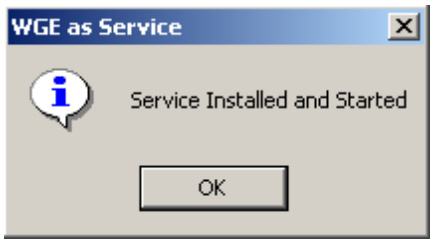



8- Press the "exit" button to close this window.

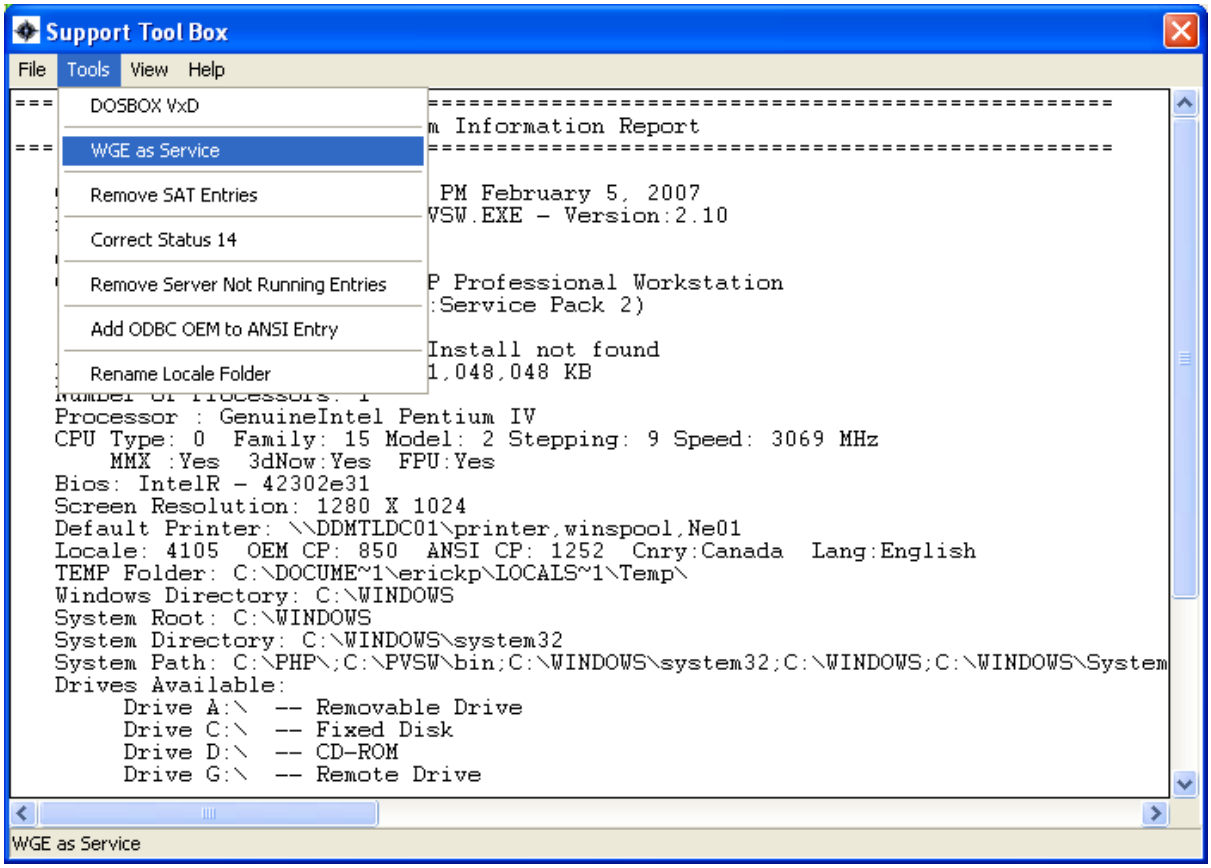
That's it! Pervasive is now installed as a service.

**Steps to uninstall the Pervasive Workgroup service**

1- Make sure no one is using EDC.

2- Browse to C:\PVSW\bin and execute the "pvsw.exe" file.

3- Execute "pvsw.exe". You will get a window like so:




5- Select the "WGE as Service" menu item like shown in the picture above. Another window will then open like so:

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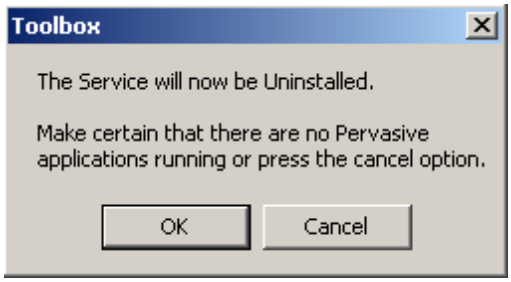
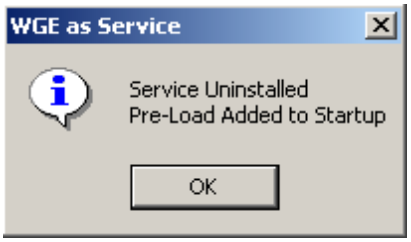
**Note: If you're only uninstalling the service and want to keep Pervasive Workgroup running as a regular console application, leave the "Add Pre-Load to Startup" option checked. If you want to remove Pervasive altogether then uncheck this option before uninstalling the service.**

6- Now simply press the "Uninstall Service" button to start the uninstall process. A warning will show like so:


Toolbox
The Service will now be Uninstalled.
Make certain that there are no Pervasive applications running or press the cancel option.
OK
Cancel

7- Once the uninstall is complete you will get a message like so:




8- Press the "exit" button to close this window.

That's it! The Pervasive Workgroup Service is now uninstalled.

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### 4.1.5 Performance Monitoring

**Introduction**

For a majority of users, the Pervasive PSQL™ performs without the supervision of a database administrator or IT staff, however, there are the occasional users who like to perform checkups or monitor the health of their database and operating system on an as-needed or scheduled basis. With the Microsoft Performance Monitor (PERFMON), users are able to quickly monitor the application and detect key areas requiring further examination and tuning to ensure optimal application performance. Using this utility it is extremely easy to identify key application performance areas and identify the additional tuning or optimization that may be required of the database.

This white paper focuses on extending the monitoring of the database process for Server (NTDBSMGR) or Workgroup (W3DBSMGR) engines in an Microsoft Windows environment.

For users interested in monitoring the health and performance of the database, Pervasive utilizes the Windows PERFMON to keep track of key counters and functions that interoperate between the MicroKernal Database Engine (MKDE) and the Operating System. Regardless of the application access methods — Btrieve , OLEDB, ADO, .NET, ODBC, etc. — all actions are recorded by the MKDE and captured within the PERFMON logs to report reliable and accurate states.

**Counter Configuration**

In order to properly monitor or troubleshoot your system, users are able to conigure the Microsoft PERFMON to record key areas of the Pervasive PSQL Microkernal Engine activity.

Performance analysis, using Microsoft's PERFMON, will help you to better understand which areas could be effecting your performance. Pervasive recommends monitoring the following items:

• Handle Count – The total number of handles currently open by this process. This number is equal to the sum of the handles currently open by each thread in this process.

• Private Bytes – The current size, in bytes, of memory that this process has allocated that cannot be shared with other processes.

• Thread Count – The number of threads currently active in this process. Every running process has at least one thread.

• Virtual Bytes – Virtual Bytes is the current size, in bytes, of the virtual address space the process is using.

• Virtual Bytes Peak – Virtual Bytes Peak is the maximum size, in bytes, of virtual address space the process has used at any one time.

• Working Set – Working Set is the current size, in bytes, of the Working Set of this process. The Working Set is the set of memory pages recently touched by the threads in the process. If free memory in the computer is above a threshold, pages are left in the Working Set of a process, even if they are not in use.

• Working Set Peak – Working Set Peak is the maximum size, in bytes, of the Working Set of this process at any point in time.

**Configuring a new Log Setting**

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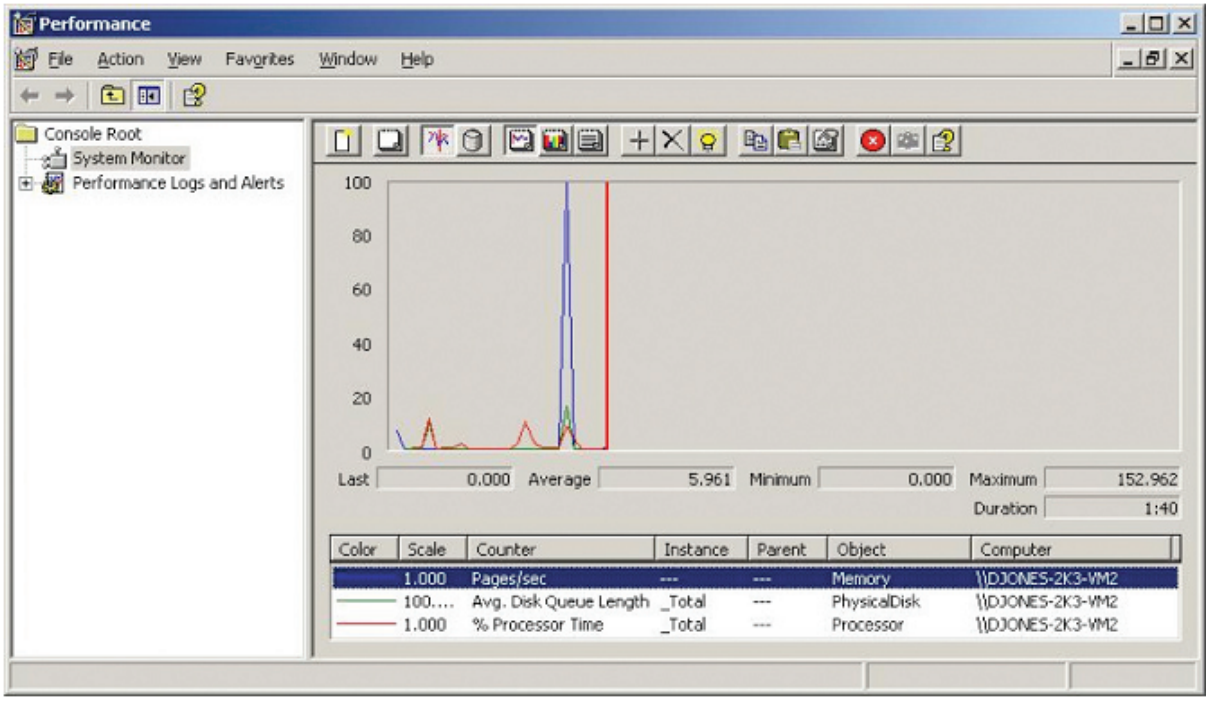
In this example we'll be running the Performance Monitor on a Windows 2003 Server system, with the Pervasive PSQL v9.5 Server Edition.

To start, let's open the Microsoft PERFMON utility.

1. Click on Start.
2. Select Run.
3. Type, "PERFMON" and hit Enter or click "OK."

When you open Performance Monitor for the first time, it should look something like this:




Notice that there are three default counters. "Pages/sec," "Avg. Disk Queue Length" and "% Processor Time" are all pre-configured and actively monitoring your system.

Now we will add the counters that we want to track in addition to these default counters.

1. In the left window pane, expand "Performance Logs and Alerts" and then click on "Counter logs." You will see "System Overview" appear in the right window pane.

2. Right click in the window pane on the right side and select "New Log Settings."

3. We will name the new log "PSQL" for this demonstration, but you may give it any name you want.

4. After you click "OK" for the name you have given to your new log setting, you will see a window like this:

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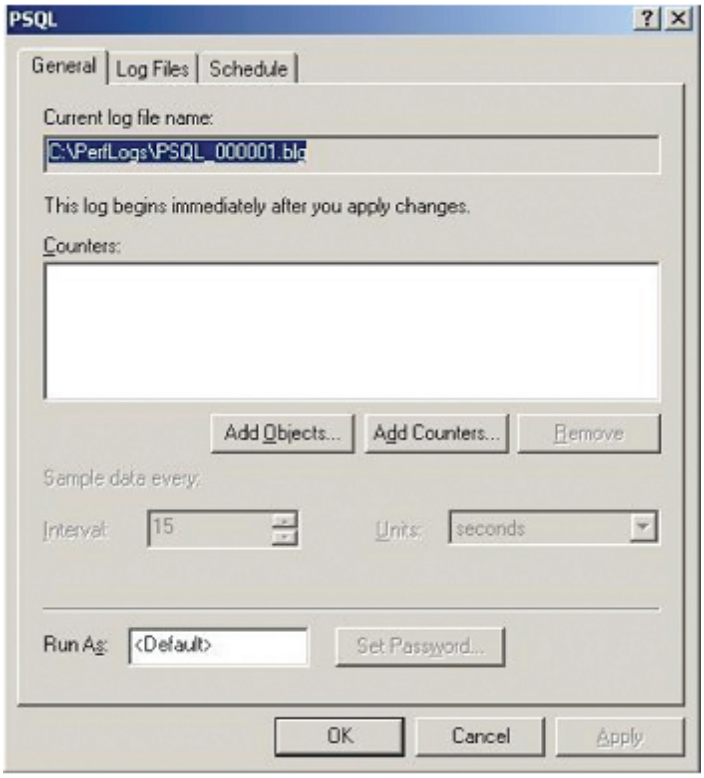


5. Click the “Add Counters” button.

6. Change the Performance object to “Process” by selecting it from the drop-down list.

7. On the bottom, right-hand side of the window, click next to “Select instances from list:” and choose: “ntdbsmgr” for the Pervasive Server Engine or “w3dbsmgr” for the Pervasive Workgroup Engine.

8. On the bottom, left-hand side of the window, click next to “Select counters from list:”

9. Hold down the Ctrl key while you select the following counters from the available list:

a. Handle Count
b. Private Bytes
c. Thread Count
d. Virtual Bytes
e. Virtual Bytes Peak
f. Working Set
g. Working Set Peak

10. Click “Add” and then “Close” to return to the previous window.

11. Click on the “Schedule” tab at the top of the current window and make sure that the Start logs and Stop logs options are both set to “Manually (using the shortcut menu).”

12. Click “Apply.”

13. If the log folder does not exist, you’ll be prompted “Would you like to create it now?” Choose “Yes.”

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14. Press “OK” to close the current window.

15. Back in the main PERFMON window, you should see the new log you just created and configured.

16. Right click on the new log and select “Start” to begin this counter log.

17. When you are ready to stop monitoring the current counters, you can right click on the log you created and select “Stop.”

**Viewing an existing Log Setting**

1. Click on “System Monitor,” under Console Root in the left window pane of PERFMON.

2. Use Ctrl + L to bring up the System Monitor Properties window.

3. In the “Source” tab, under “Data source,” select “Log iles” and then click “Add.”

4. Look for your log ile. By default the path is \perlogs\ile.blg.

5. Select your log ile and click “Open.”

6. Change to the “Data” tab.

7. Remove the existing counters by highlighting each one and clicking on the “Remove” button just below the “Counters:” window.

8. Click the “Add” button to select the counters that you configured.

9. You can hold down Ctrl while selecting each of the listed counters in the “Add counters from list:” window and then click the “Add” button below.

10. Click “Apply” and then “OK.”

You will now see the results of your counter log in the System Monitor window, which will look something like this:

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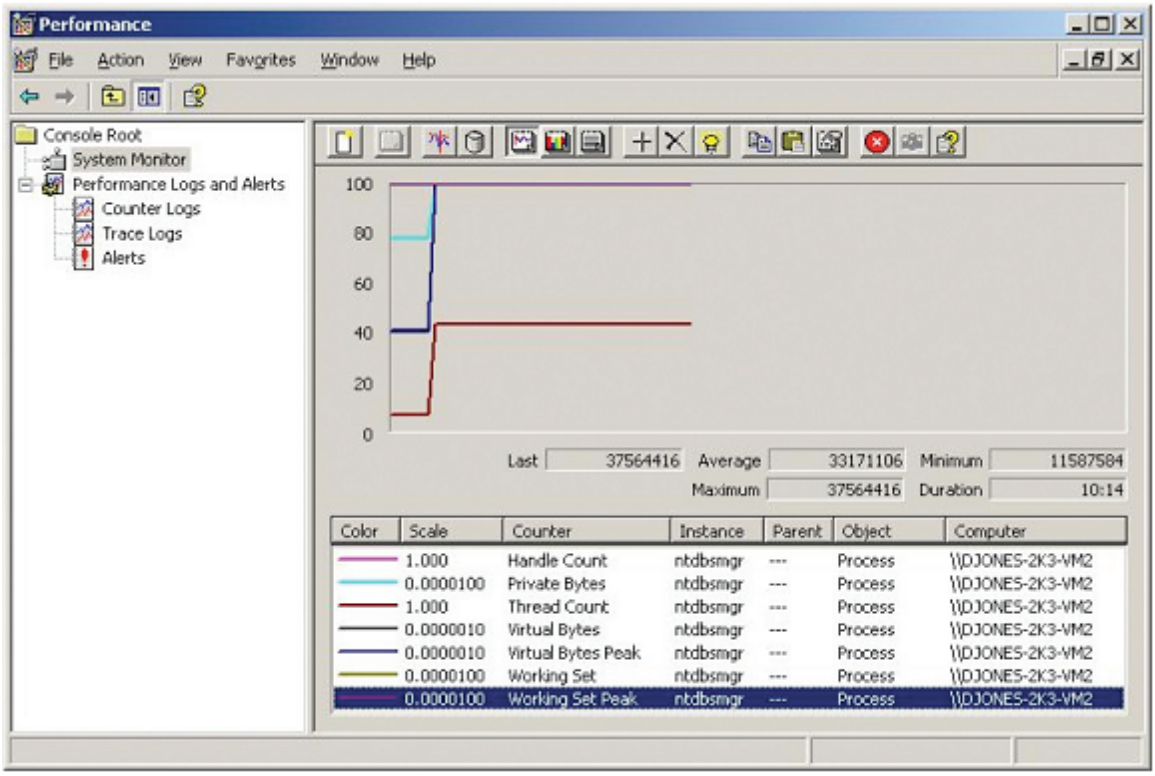


**Viewing Perfmon activity counters**

If you want to simply forego recording the log ile, and you would rather just view the activity for the counters, follow these steps:

1. From the System Monitor window, choose Ctrl + I (or click on the Plus sign above the window).

2. Change the Performance object to “Process” by selecting it from the drop-down list.

3. On the bottom, right-hand side of the window, click next to “Select instances from list:” and choose “ntdbsmgr” by clicking on it.

4. On the bottom, left-hand side of the window, click next to “Select counters from list:”

5. Hold down the Ctrl key while you select the following counters from the available list:

a. Handle Count
b. Private Bytes
c. Thread Count
d. Virtual Bytes
e. Virtual Bytes Peak
f. Working Set
g. Working Set Peak

6. Click “Add” and then “Close” to return to the System Monitor window.

7. If the graph appears to be frozen, you can use Ctrl + F to start the counter.

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Now that you have learned how to setup the Microsoft Performance Monitor, you can run your application and monitor the Pervasive PSQL database engine activity.

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### 4.1.6 Pervasive.SQL Licensing

When installing Pervasive.SQL without a license a temporary, 3-month trial license is used. A new license can be installed via the *License Administrator*, a Pervasive.SQL utility accessible under the Pervasive.SQL group in the Start menu. A license is unique by major release. Updates causing a sub-version number change does not require a new license. That is, version 7.1 and version 7.9 can use the same license, but version 8 cannot run on a version 7.9 license.

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### 4.1.7 Pervasive.SQL Troubleshooting

Here are some tips in troubleshooting Pervasive.SQL problems:

- If there is no database error and the database cannot be reached, trying pinging the database gateway using its computer name and telnetting it on port 3351 using its computer name
- When a Pervasive.SQL error code is obtained, the best source for researching the problem is the Pervasive.SQL documentation. There is a link in the Start menu's Pervasive.SQL group. Searching the help file with the index is the best way to locate the error code's explanations and recommendations.
- Very often, problems are resolved by restarting the Pervasive.SQL engine on the computer acting as the database server.
- The Pervasive.SQL's log file is located at *%windir%\pvsw.log*
- Pervasive has an extensive Knowledge Base at http://www.pervasive.com that can help troubleshoot problems.

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## 4.2 Replication

The EDC Replication is the part of the EDC system which allows data synchronization between a customer and its record center. It opens a port to replay communication from several EDC Client workstations to the record center.

Here are the major features of EDC Replication:

- Uses TCP/IP, making it useable over the Internet
- Uses the *http* or *https* (secure socket layer) protocol
- Uses XML-RPC (remote procedure calls) between EDC Client and EDC Record Center
- Runs as a background process or service and requires minimal user intervention
- Easy to configure

In the past, replication required two processes on the customer's side. Now, only one process is required, *replicator.exe*. Another much awaited improvement is the higher speed of replication.

### 4.2.1 Architecture

Each workstation only requires Pervasive.SQL, as well as access to executables and the configuration file. The workstations communicate with the EDC Client database, replication, and image servers, which can all be located on the same computer.

One copy of the replication process must run whenever EDC Client is used when interaction is needed between the customer and the record center. For example, replication is required to place orders. See Operations that Require Replication 132 for a longer list of such activities.

One copy of the image server process must run in order for EDC Client to access or store digital version of documents found in the File module.

Each EDC Client workstation must be made aware of the location of the replication server and image server. Installing and Testing Replication 45 and Installing and Testing the Image Server 55 explain how to make this possible.

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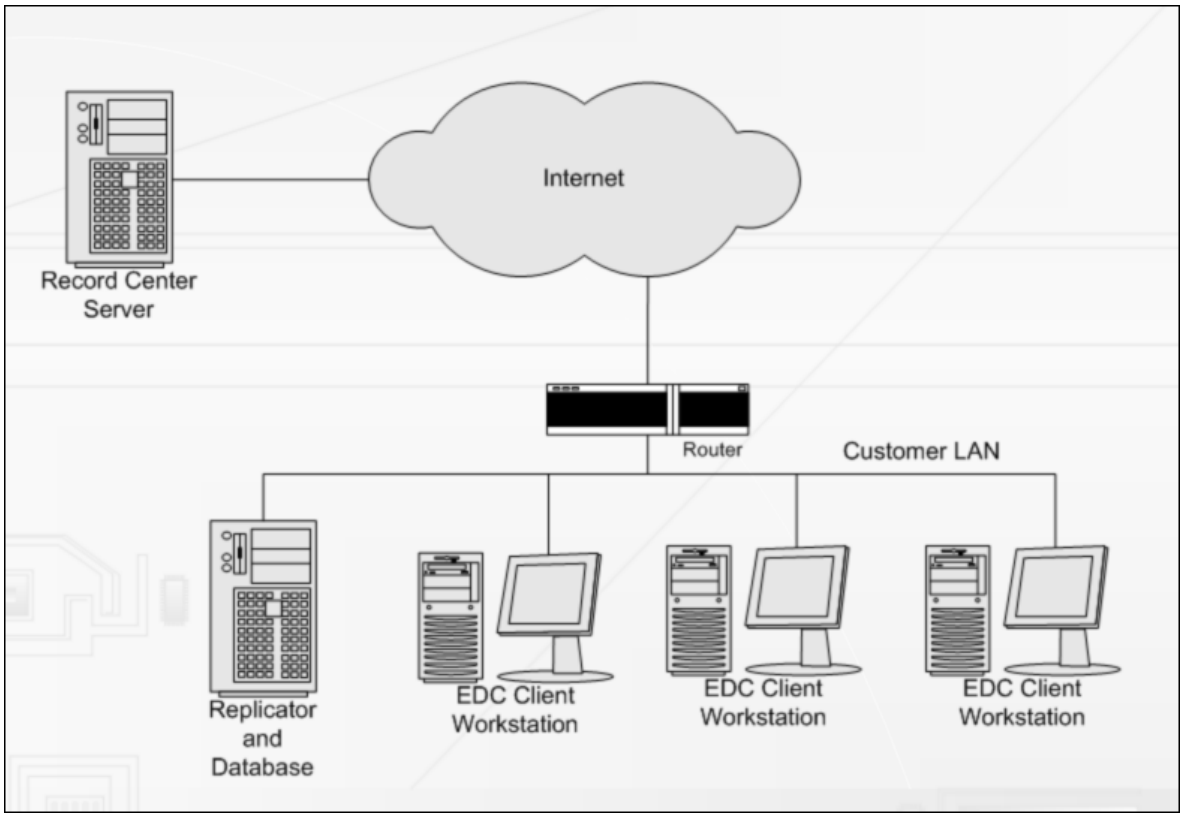


### 4.2.2 Replication Process Explained

The replication process will synchronized the follow data between the client and the record center:

- Document types
- Delivery address
- Disposal, deletion, and transfer list status
- Boxes
- Files
- Images

Document types are updated from the client to the record center. When a customer is replicated, the document types may only be edited by the client using the client software.

Delivery address are updated from the record center to the client. Delivery addresses can only be added or modified by the record center.

The list status are updated from the record center to the client. List status, for example, indicating a destruction has been completed, may only occur at the record center.

Boxes and files replicate in both directions. When a boxes or file changes, it's entire content, including notes and history, is copied to the remote site. If the same item is modified on both the client and record center databases during the same session the client changes will have precedence and overwrite the record center changes. This is a rare occurrence as replication generally occurs every 15 minutes.

PreAdd boxes and files deleted in the client software will be processed and deleted at the record center

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in the next replication session. PreAdd boxes and files deleted at the record center are NOT deleted at the client software. This was designed to avoid an overly complex system. Since PreAdd items are not charged for, nor are they in inventory, this synchronization is sufficient.

Boxes and files in the "in house" states are not synchronized with the record center. The record center does not store information on "in house" items.

Boxes and files and synchronized sequentially based in the histories registered in EDC. Here is the list of history activities that provoke a synchronization:

- PreAdd
- Out
- Added
- In
- OnDispList
- OnTransList
- OnDelList
- Deleted
- Destroyed
- Transfered
- Sampled
- Revised
- SentToDepot
- DeptChange
- NumberChange
- DescChange
- TypeChange
- Moved
- AccessLevelChange
- DispositionChange
- BoxChange
- VolumeChange
- UserField6Change
- GeneralChange
- BoxChange
- PreAddDeletion
- ImagesScanned
- VaultTransition
- ItemSetChange
- AltLabelChange

Images may be scanned both in the record center and the client software when the client stores images with the record center. If the client stores the images locally, images never get replicated with the record center and the record center is not involved in the imaging. In order to implement imaging on demand, images need to be stored at the record center.

Images are sequential within a file, starting at number 1, and increasing until the last image within the file. If images are scanned in the same file at the same time (this is VERY unlikely, as the physical file is probably in only one location), images scanned at the record center will be replaced by the images that were scanned at the client.

When images are scanned in the client software, they will get replicated to the record center in the next replication session. When images are scanned at the record center, only the image index gets

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replicated to the client in the next replication session. In order to obtain the actual images, they have to be downloaded from the Imaging module.

During a replication session, the following events occur:

- If the document types, delivery addresses, and list status have not been replicated in the previous 4 hours, they are synchronized as detailed above
- Boxes deleted in the client database are deleted at the record center
- Files deleted in the client database are deleted at the record center
- Box changes in the client database are updated at the record center
- File changes in the client database are updated at the record center
- Box changes in the record center database are updated at the client
- Files changes in the record center database are updated at the client
- The image index in the client database is updated according to new images scanned at the record center
- Images scanned at the client are sent to the record center

### 4.2.3 Operations that Require Replication

Following is a list of all the operations that require the EDC replication services provided by the *Repilcator.exe* process.

- Placing an order in the Order module.
- Refreshing a box or file, in the Box module and File module, respectively. This operation may be used to immediately refresh the item information with the record center. For example, if the replication is configured to synchronize every 15 minutes, a user may want to refresh immediately rather than wait for the next replication session.
- Change a document type code. Document types must be synchronized at all times with the record center, so when a document type code changes, a request will be sent immediately to change it at the record center.
- Change a department or sub-department name. Departments must be synchronized at all times with the record center, so when a department or sub-department name changes, a request will be sent immediately to change it at the record center.
- Performing an "On demand replication" in the System Information module.
- Viewing the replication log in the Box and File Maintenance module.

### 4.2.4 On Demand Replication

It is possible to force a manual replication from the EDC Client software. This feature is available by clicking *On Demand Replication*, found in the System Information module's File menu. The operation will request a date interval.

This is a seldom used operation, and is not required under normal operation. It may be used if there has been network or disk I/O errors to resynchronize the client database with the record center database.

When a client database is restored from a backup, a manual replication should be used to resynchronize changes that occurred between the date of the backup and the current date.

### 4.2.5 Security

**Replication security**

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The SSL encryption used when SSL is chosen is 256-bit AES (Advanced Encryption Standard). See EDC Client Replication Configuration 45 for information on setting enabling SSL for replication.

For replication to occur with the record center, the customer password specified in the Customer Information module must match the password at the record center.

To perform operations that require replication (ex: placing orders), the user's login name must match an authorized user's login name at the record center. See Operations that Require Replication 132 for the full list of operations requiring replication.

## 4.3 Networking & Connectivity

If your installation of EDC Client is distributed over a network and you have firewalls managing the incoming and outgoing connections you need to be aware of the default ports used by EDC Client and how to change those default ports if the need arises.

Please refer to the section entitled "Installing EDC Client Services" 61 of the Install Guide for an explanation on how to do this.

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## 4.4 EDC Client Services

Please refer to the section entitled "Installing EDC Client Services" 61 of the Install Guide for an explanation of all EDC Client services.

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## 4.5 Imaging

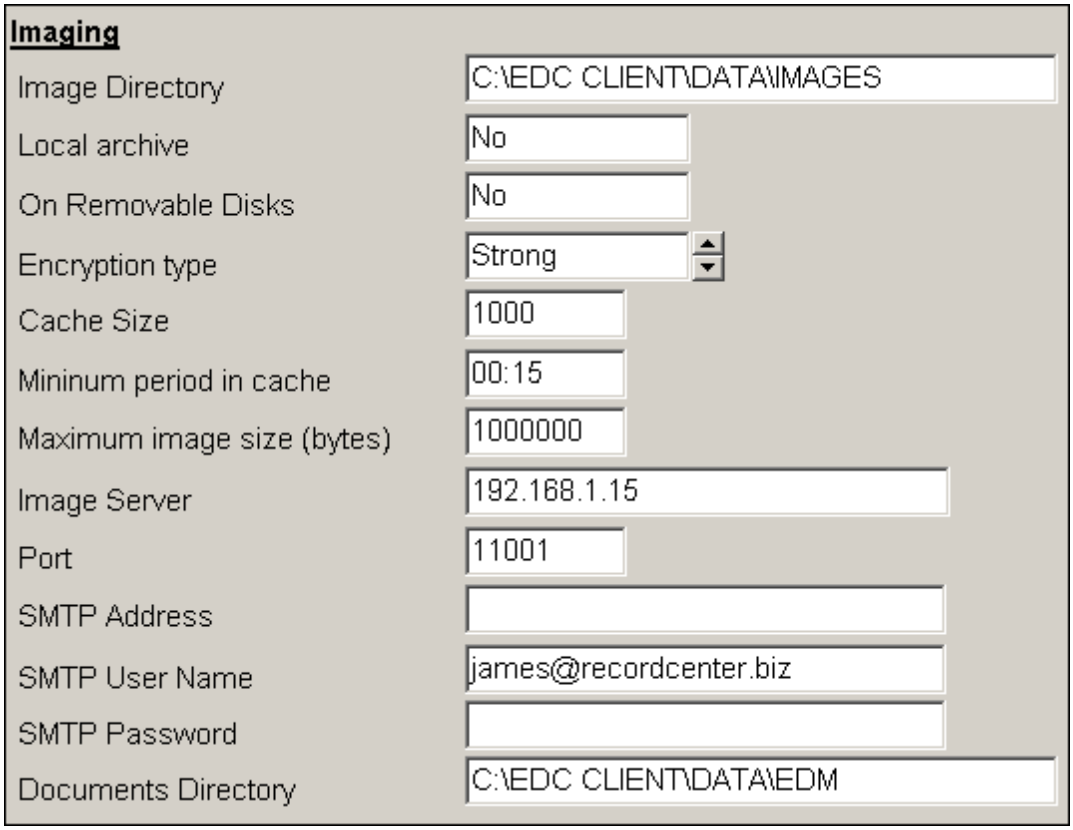
The imaging module of EDC Client is used to store/associate digital images with EDC files(not boxes). You can get images into EDC either by scanning or importing them.

You access the imaging module in 2 places:

- File module: you go to the "File -> Images" menu.
- Box and File Maintenance module: you go to the "File -> Import Images" menu.

All the imaging functions of EDC Client require the Image Server to be up and running in order to work. Usually in a normal installation the Image Server is always installed as a service and so you don't need to start it manually but in case you need to start it manually, the file to execute is called "imgser32.exe" and is located in the "bin" folder of your installation.

By default the images are stored in the "images" folder, inside the data folder of your installation. The imaging settings in EDC Client are located in the system information module. Here's a screenshot of those settings:




You can use relative or absolute paths here it doesn't matter. The port 11001 is the default one as well and shouldn't be changed unless you really have to.

That concludes the section on Imaging.

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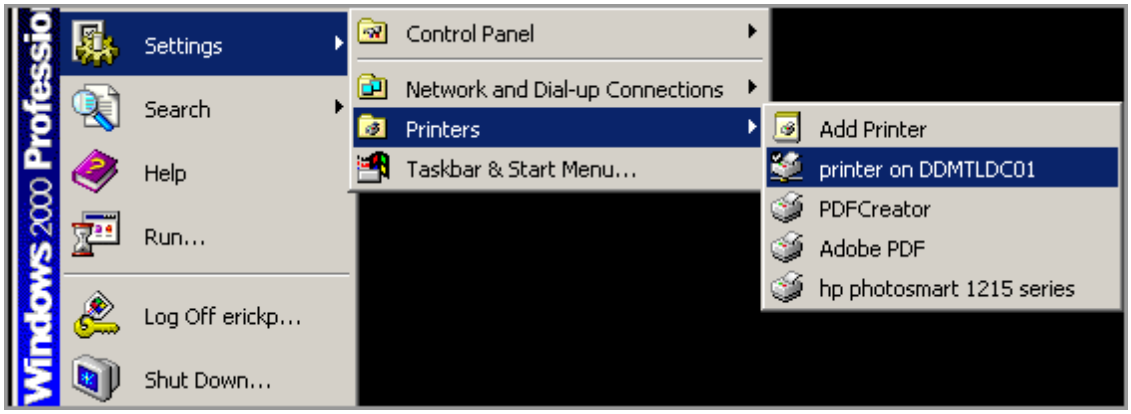
## 4.6 Printing

There is 2 different type of printing in EDC Client: Labels and Reports printing.

**Reports Printing**

When printing reports, EDC Client uses the default printer installed on your Windows machine. Here a screenshot to illustrate:




So in the example here, it shows that my reports will be printed on my "printer on DDMTLDC01" printer because it is the one set as my default printer. Any printer in this list could have been equally suitable for the job including the PDF generators.

EDC Client internally uses ODBC drivers to achieve this report printing business. That is why when EDC Client is installed, the installation process automatically creates a DSN entry in your computer like such:

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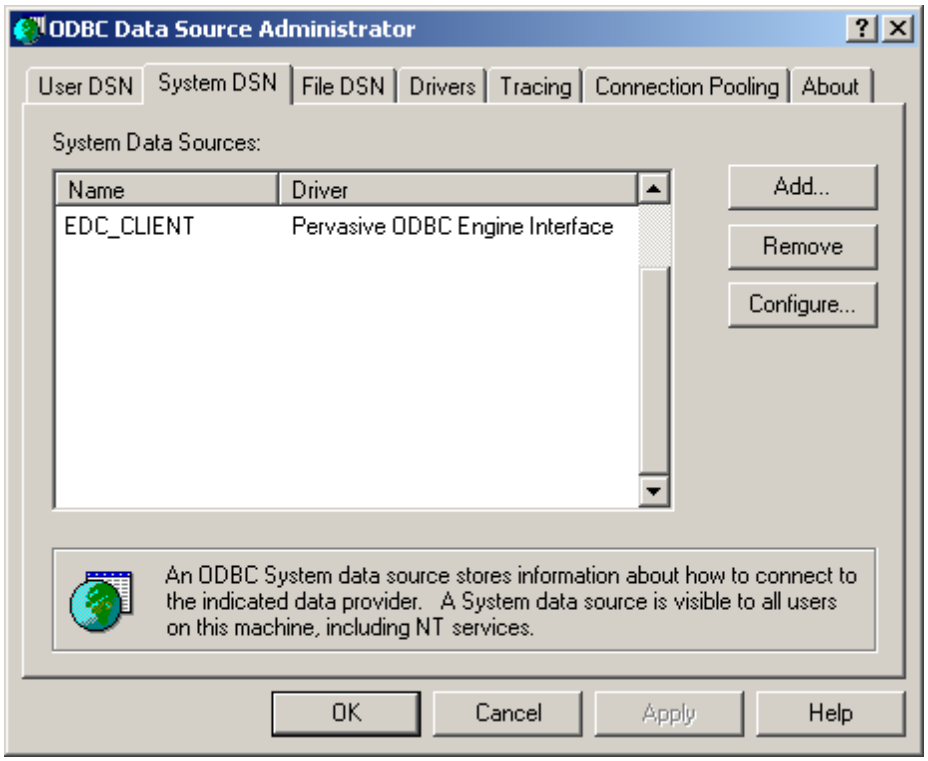


EDC Client uses the name "EDC_CLIENT" for its DSN name by default and you should not change it. If you do change it you would have to start EDC Client with a special parameter called "dsn" which would supply the name of the new DSN you want to use. Here's an example:

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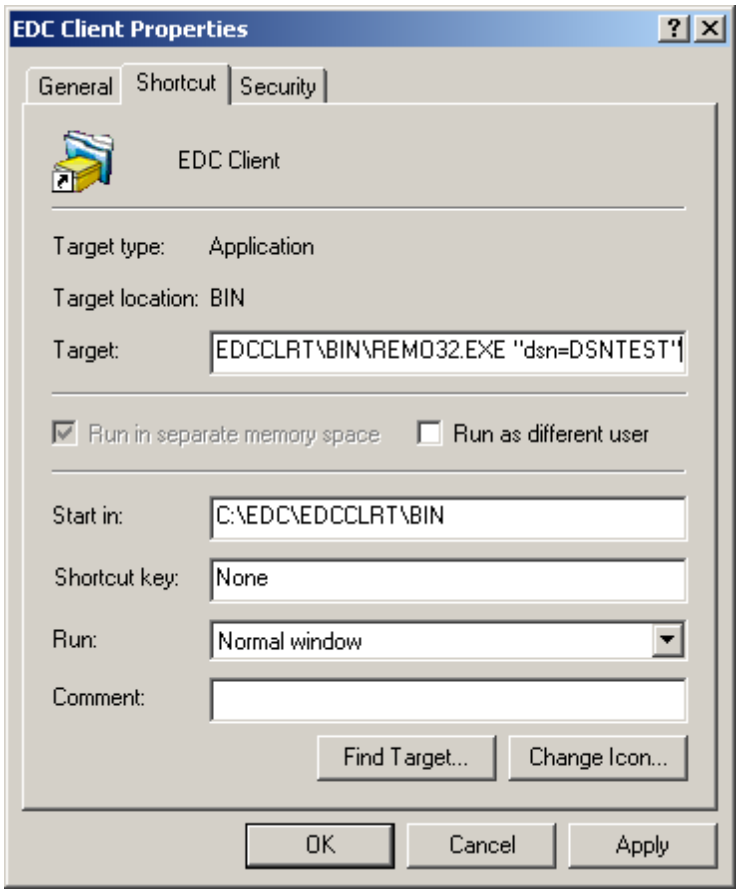


Please refer to the section "Data Source Names(DSN) and ODBC" 149 to learn how to setup a DSN for EDC Client from scratch.

## Labels Printing

There are 2 ways to print labels in EDC Client:

- With thermal printers through either a serial interface or windows printer drivers
- With laser printers

**Note:** If you want to use either thermal printers through windows printer drivers or laser printers you have to also edit the label templates for proper operations. Printing through thermal printers via the serial interface is the only mode in which you don't have to and/or can't edit labels. In other words, **if you need to customize labels you can't use the serial interface**.

### Thermal Printers

To configure EDC Client to use a thermal printer, you need to modify the dc.cfg file usually located in the bin folder of your installation. Although this file is editable with a regular text editor, most users usually prefer to use the "EDC Setup" utility(dcsetp32.exe) also found under the bin directory. Once opened it looks something like this:

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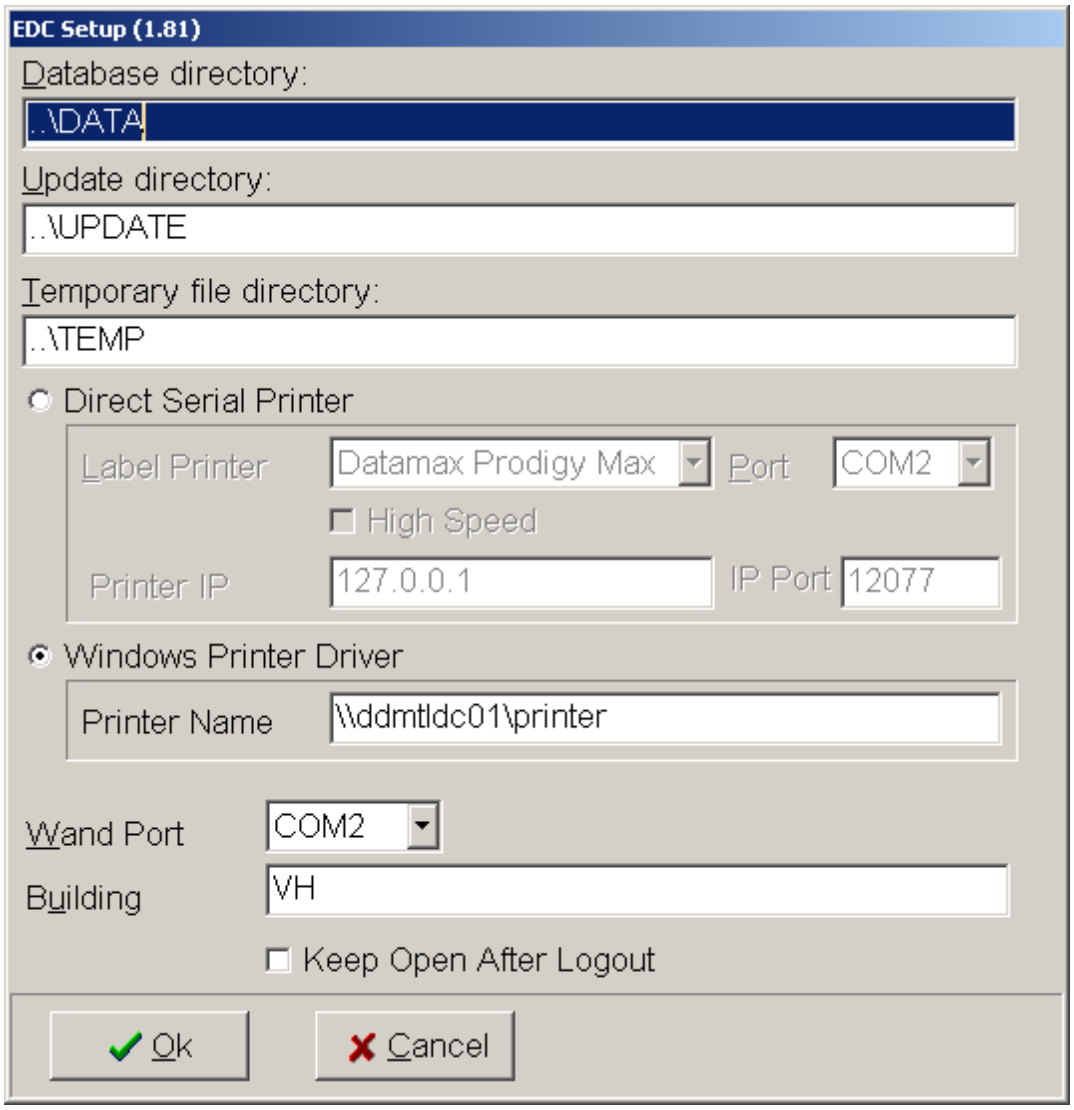


From here you can choose either "Direct Serial Printer" or "Windows Printer Driver". You would choose "Windows Printer Driver" if your printer came with a windows driver and was installed on your machine like any other regular printer would. The field here accepts either the printer name directly if the printer is connected to your server or a UNC path if the printer is on a network (like in the example shown above).

The printer name is the name you see in the printer setup page shown here:

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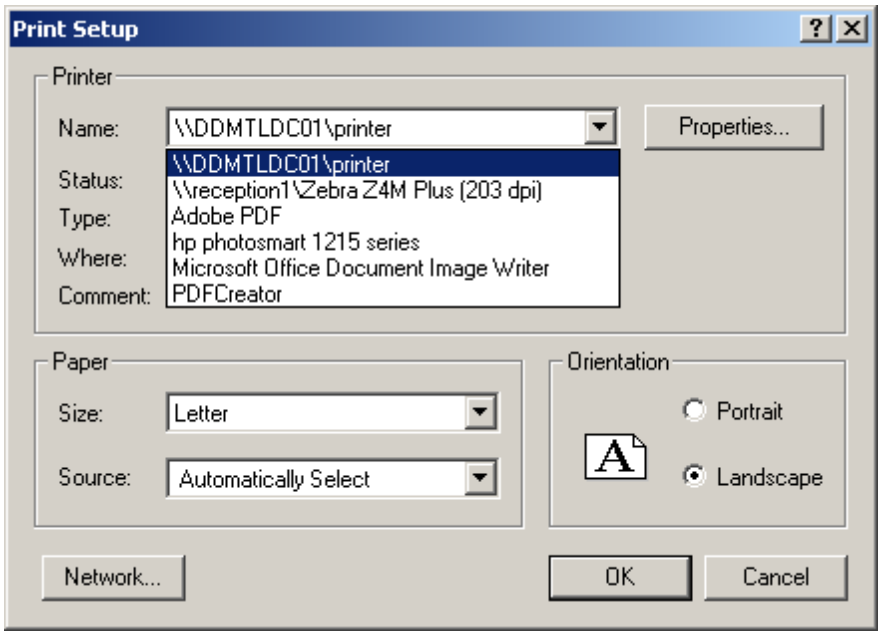
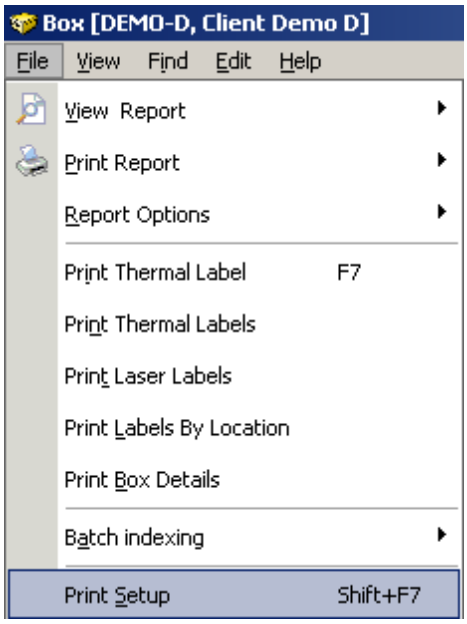



In the case of this printer, the name is "\\DDMTLDC01\printer". You can access this page by going to the "Box" module of EDC Client and go "File -> Print Setup" like so:




If you choose to print via the windows printer drivers, you also need to configure the label template for the printing to work properly. The templates are located in the system information module:

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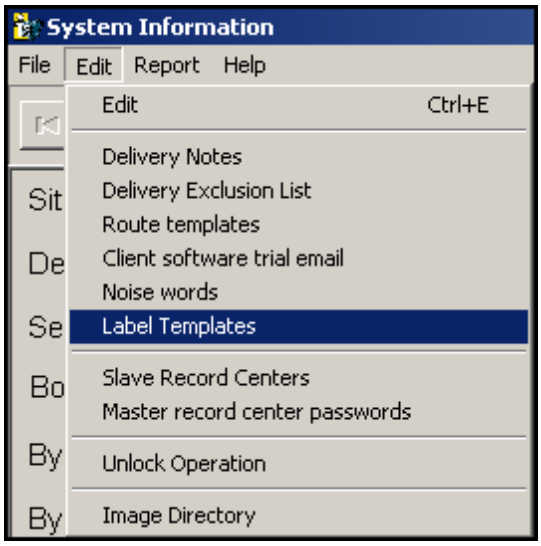


Refer to the EDC Client User's Guide if you need an explanation on how to modify the labels.

If you choose "Direct Serial Printer", here's what you first get:

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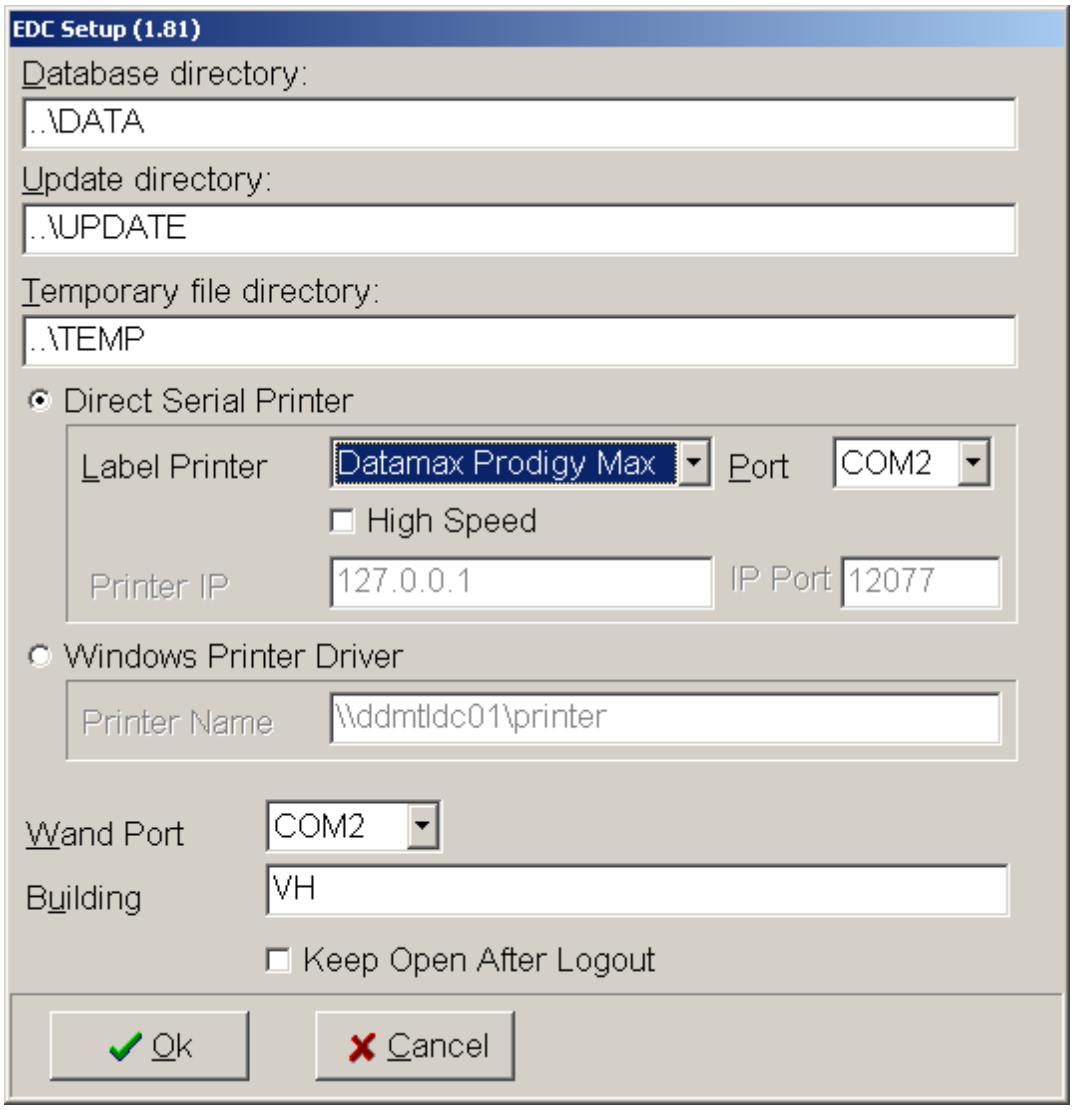


If you open the "Label Printer" drop-down field, you see the list of supported printers like so:

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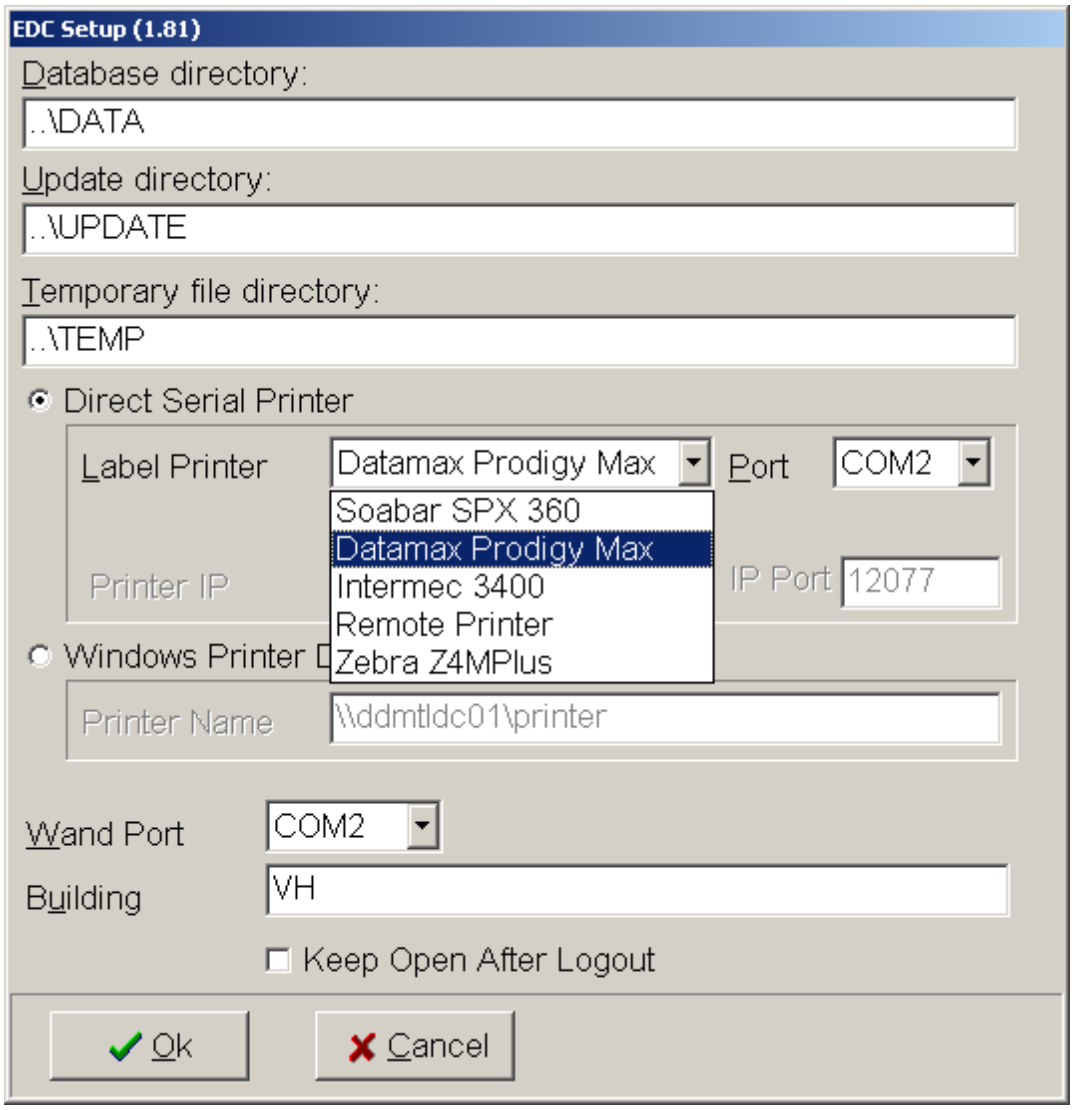


If you thermal printer is connected directly to your server, you can choose of the 4 models shown in the list. "Remote Printer" is NOT one of them (we'll talk about this next). Then you have to choose the COM port on which it is connected to. Then just underneath the printer drop-down list(refer to the 2nd picture up) there is an option called "High Speed" which you can select to make your printer print faster. Note that this setting is only available for the printers that support it. The best thing to do here is simply to enable it. If it's available on your printer you'll see a difference in speed and if it's not then you won't. Either way it doesn't harm anything to put it on so just enable it.

If on the other hand your printer is located on another machine on a network, then you have to choose the "Remote Printer" in the drop down list and enter the printer's IP address & port number in the appropriate fields like so (the high speed option applies the same here):

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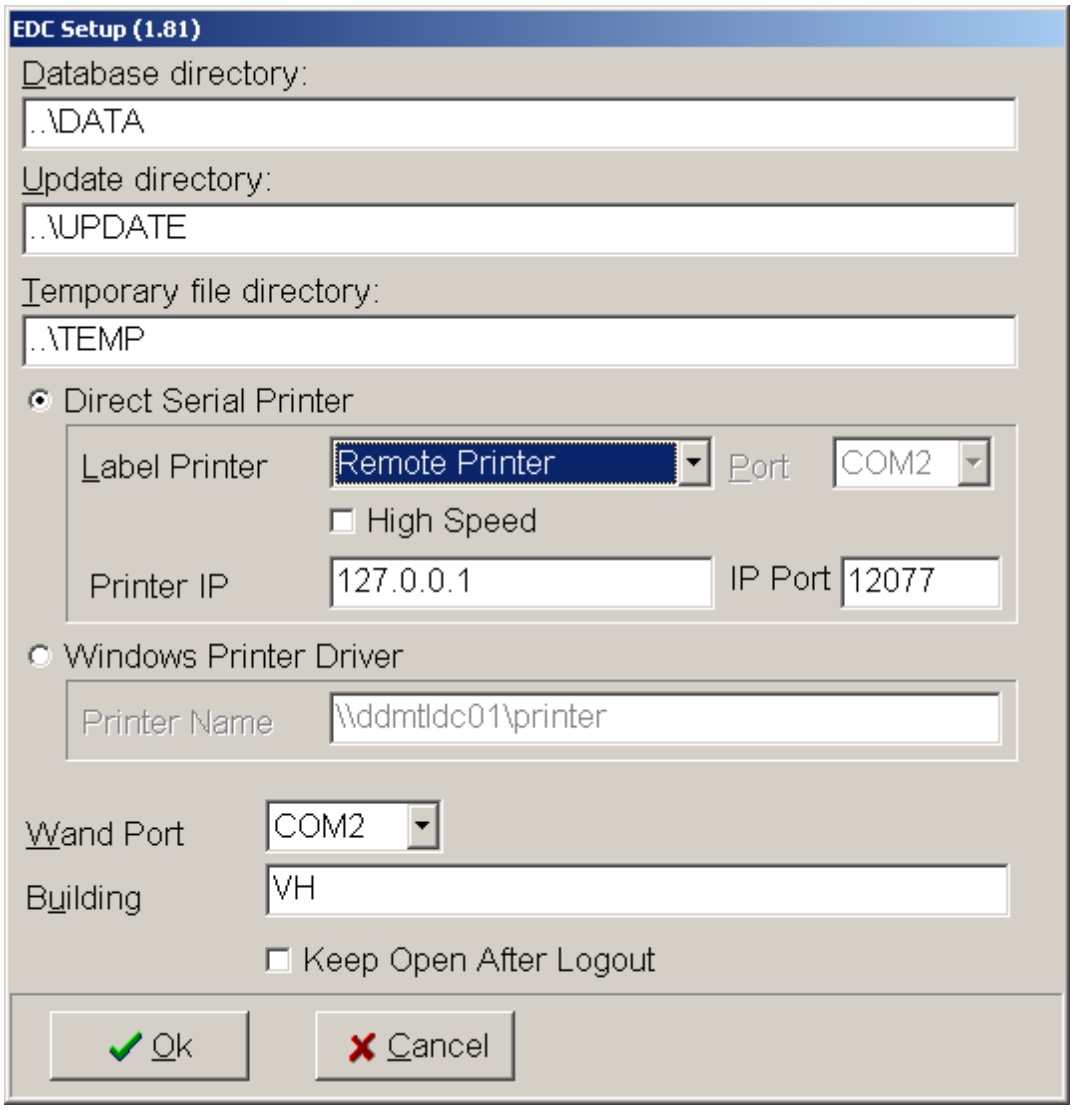


The port number 12077 is the default one and should not be changed. Let's see in more detail how all this works. First here's a drawing that will help:

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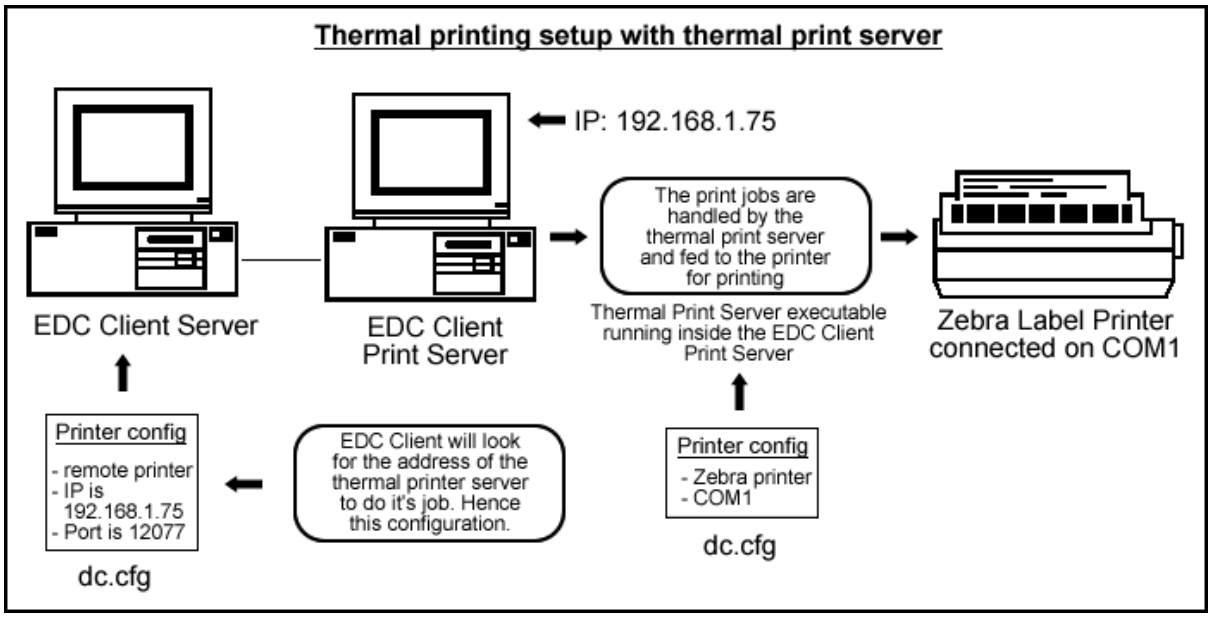
Thermal printing setup with thermal print server
IP: 192.168.1.75
The print jobs are handled by the thermal print server and fed to the printer for printing
EDC Client Server
EDC Client Print Server
Thermal Print Server executable running inside the EDC Client Print Server
Zebra Label Printer connected on COM1
Printer config
- remote printer
- IP is 192.168.1.75
- Port is 12077
dc.cfg
EDC Client will look for the address of the thermal printer server to do it's job. Hence this configuration.
Printer config
- Zebra printer
- COM1
dc.cfg

It is the thermal print server that communicates with the label printer directly. The thermal print server can be installed by itself as a regular process or service on any windows machine running Pervasive.

As you can see in the picture above, there is two dc.cfg files needed in this case: one to configure the printer as seen from the EDC Client server standpoint and one as seen by the thermal print server standpoint.

Since the printer is connected directly to the machine where the thermal print server is running, in the config file "dc.cfg" the printer is set to a local "zebra" printer with the appropriate COM port.

The configuration from the EDC Client Server is set to a remote printer because the printer is NOT connected directly to that machine. The IP address needs to be the address of the computer where the thermal print server is running which in our drawing says it is 192.168.1.75. The port number is left to the default of 12077, the port on which the thermal print server listens to for incoming print jobs.

That's about it for thermal printing! Next is just a note on laser printing.

**Laser Printers**

Laser printing was originally only available in the EDC Client software to allow customers to print their own labels themselves but has been made available in EDC Client for convenience. The printing is done on Avery sheets. EDC Client supports the following Avery models:

Letter (8.5 X 11in.)
- 5095
- 5159 through 5165
- 5197, 5198 & 5199
- 5260 & 5266
- 5960 & 5972

A4 (210 X 297mm)
- L7159 through L7170
- L7172 & L7173

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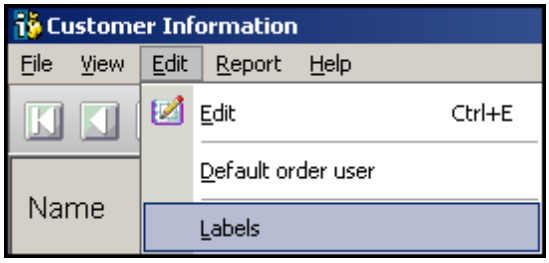
In order to use laser printers, you also need to configure the label template for the printing to work properly. The templates are located in the customer information module:




Please refer to the EDC Client User's Guide if you need an explanation on how to modify the labels.

This concludes the section on printing.

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## 4.7 Language Dictionaries and Strings

EDC Client's graphical interface language can be changed if desired. EDC Client supports 4 languages but only 2 can be used inside an installation at any one time. Here is the list of language combinations that can be used:

- English/French
- English/Dutch
- English/Spanish
- Dutch/French

This section will show you how to install another dictionary combination into EDC Client and also how to update the dictionary with new string definitions. Follow the links below for instructions:


- Changing the dictionary used in EDC Client 147
- Updating String Definitions in Dictionary 147


**Changing the dictionary used in EDC Client**

Here's the steps required to change the dictionary in EDC Client:

1. Obtain the new dictionary file from us by contacting support@docudatasoft.com
2. Make a backup of the file called "string.dat" located inside the "data" folder of your EDC Client installation.
3. Rename the file you obtained from us to "string.dat" and put it in the "data" folder of your EDC Client installation. Overwrite the old one with the new one when prompted.

The dictionary is now changed. Now if your new dictionary is anything other than "English/French" you will also need to update the string definitions AND translate the new strings themselves in the dictionary. Read the next section for instructions on how to do this.

**Updating String Definitions in Dictionary**

Follow the steps below to update the string definitions in the dictionary:

1. Obtain the new string definition update file from us by contacting support@docudatasoft.com
2. Make a backup of the file called "string.dat" located inside the "data" folder of your EDC Client installation.
3. Rename the file you obtained from us to "string.dat" and put it in the "update" folder of your EDC Client installation.
4. Go to the "bin" folder of your EDC Client installation and run the file "dimp32.exe".

Your dictionary is now updated with the new string definitions.

Note: If the language you use in EDC Client is anything other than English or French you will also need to translate the new string definitions to match your language. Basically this only applies if you use either Dutch or Spanish as your primary language in EDC Client.

Please refer to the section entitled "Language Dictionaries and Strings" in the EDC Client User's Manual. If you don't have the User's Manual you can download it from ftp://docudatasoft.com/client/manuals/english .

This concludes the section on Dictionaries and Strings.

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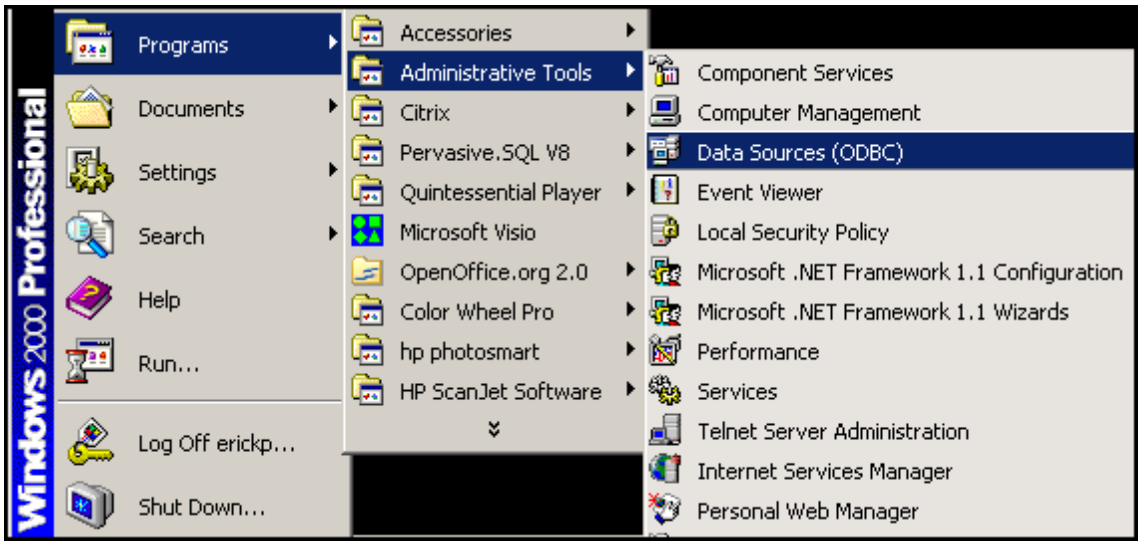
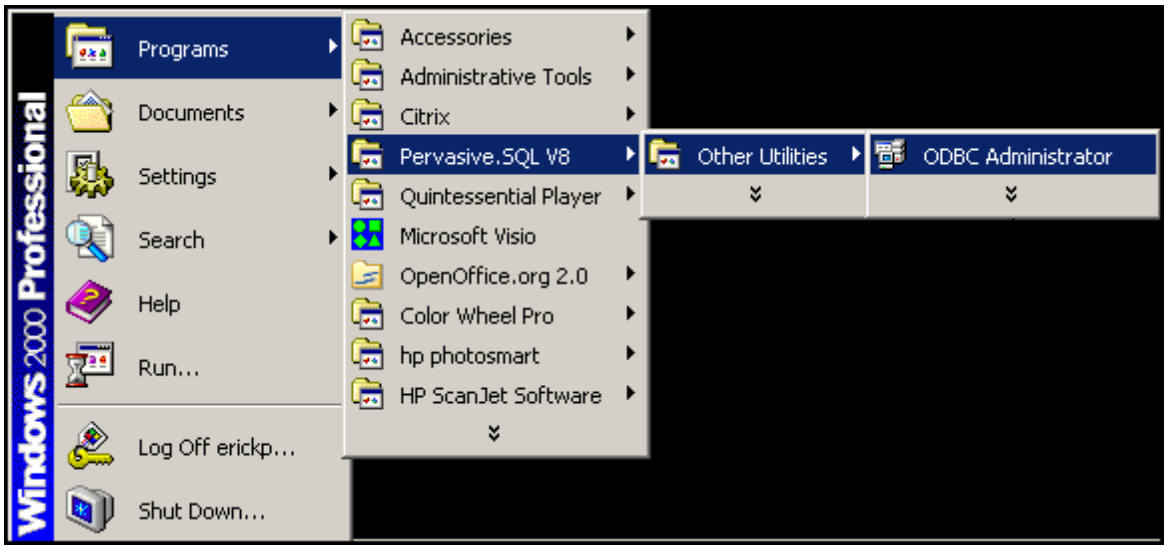
## 4.8 Data Source Names(DSN) and ODBC

This section of the manual shows you how to setup a DSN for EDC Client from scratch in case you would need to do so(you usually don't need to).

**Creating a DSN entry for EDC Client**

1- Go to the "ODBC Data Source Administrator". You can access this via 2 different places once Pervasive is installed. Here's some screenshot that will help you find those:




**Note:** These screenshots were done on a windows 2000 machine. If you are running another version of windows it might not be exactly in the same place but it should be close.

2- Browse to the "System DSN" tab and click the "Add" button. You'll then be prompted to choose a driver for your new DSN. Choose "Pervasive ODBC Engine Interface" and click finish like such:

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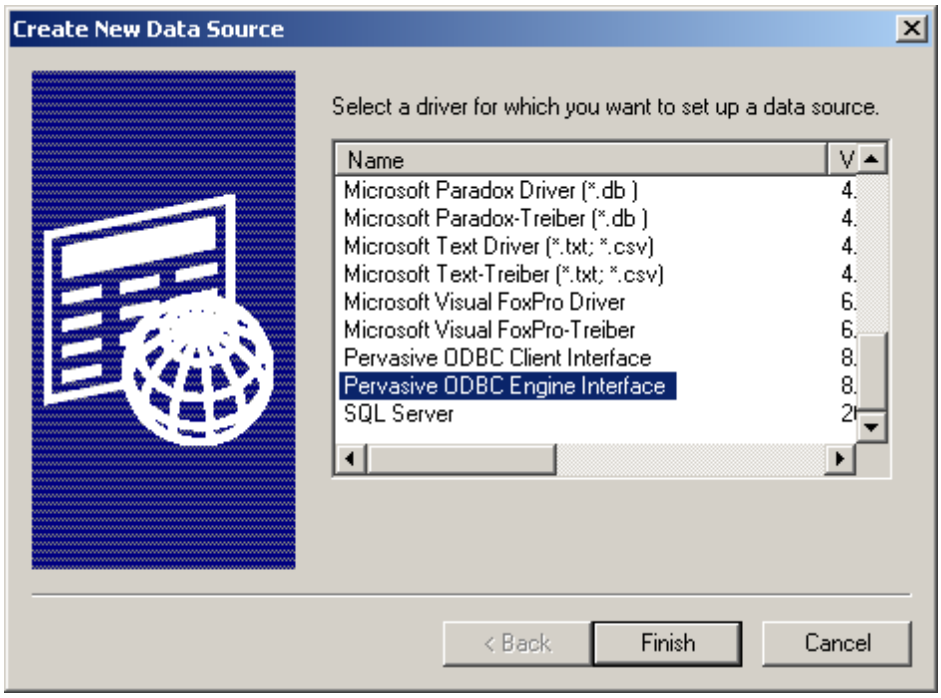
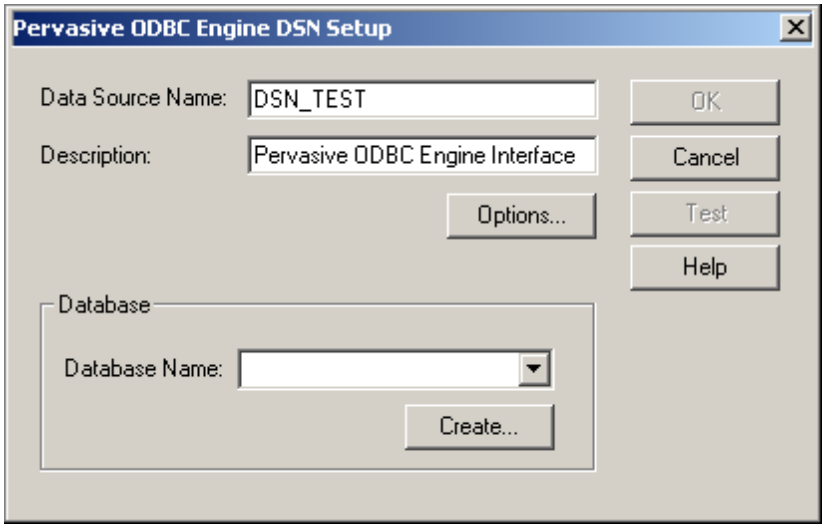



**NOTE: If you want to connect to data that is local on the machine your creating the DSN from, you always choose the "Engine" interface. You only choose the "Client" interface when the data is NOT located on your machine.**

3- Next your presented with a window like this one:




Choose a name, enter it in the "Data Source Name" field and then press the "Create" button at the bottom of the window. You'll then be shown another window like so:

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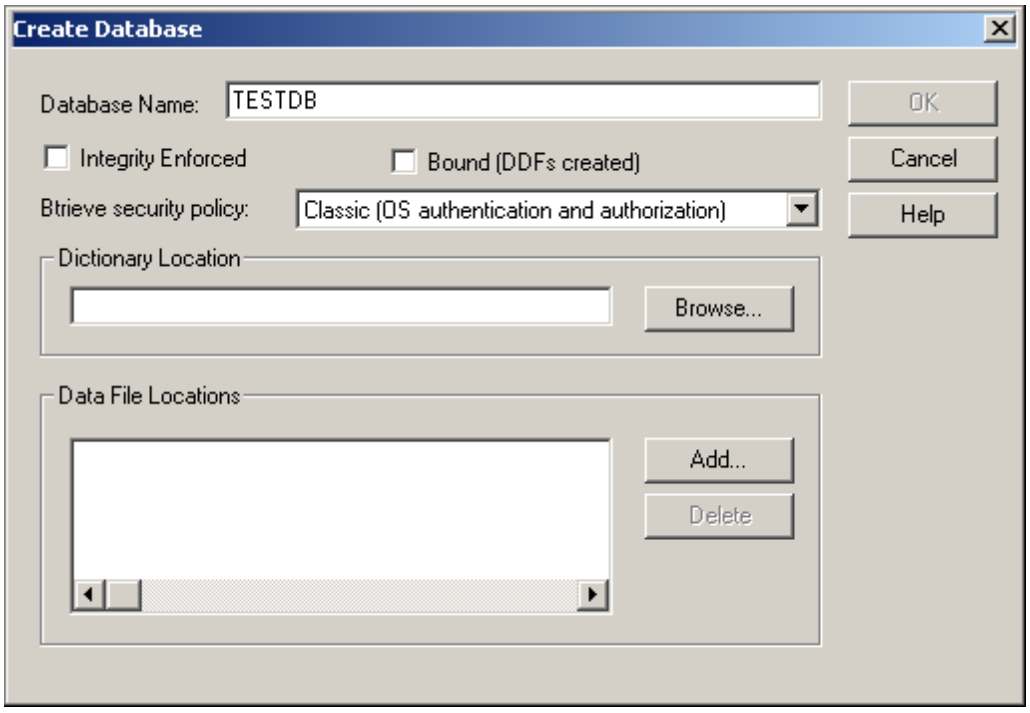
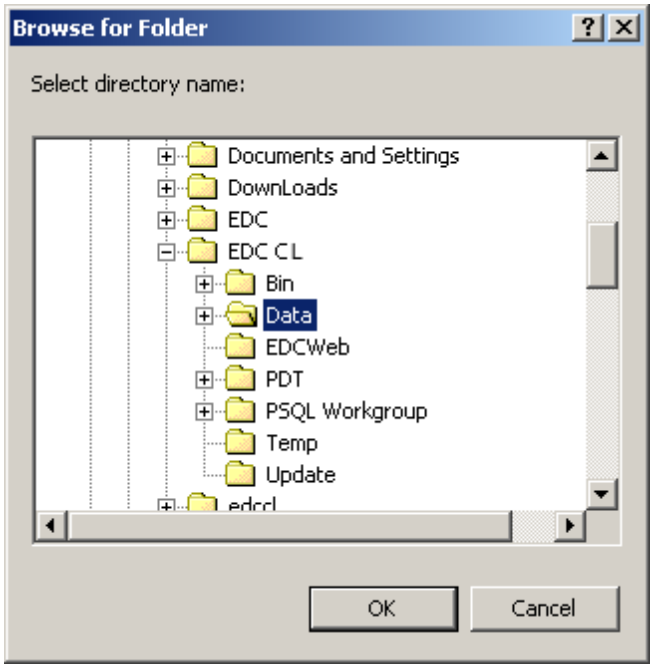



Choose a name for your database and enter it in the "Database Name" field. The name you choose can only contain alphanumeric characters and start with a letter to be valid (otherwise it won't let you create the database). Once you chose a name, deselect the option "Integrity Enforced" and then click the "Browse..." button to choose your data folder.

Browse and choose the data folder of your EDC Client installation like so:




You'll then see that path appear in the 2 last fields of the form like so:

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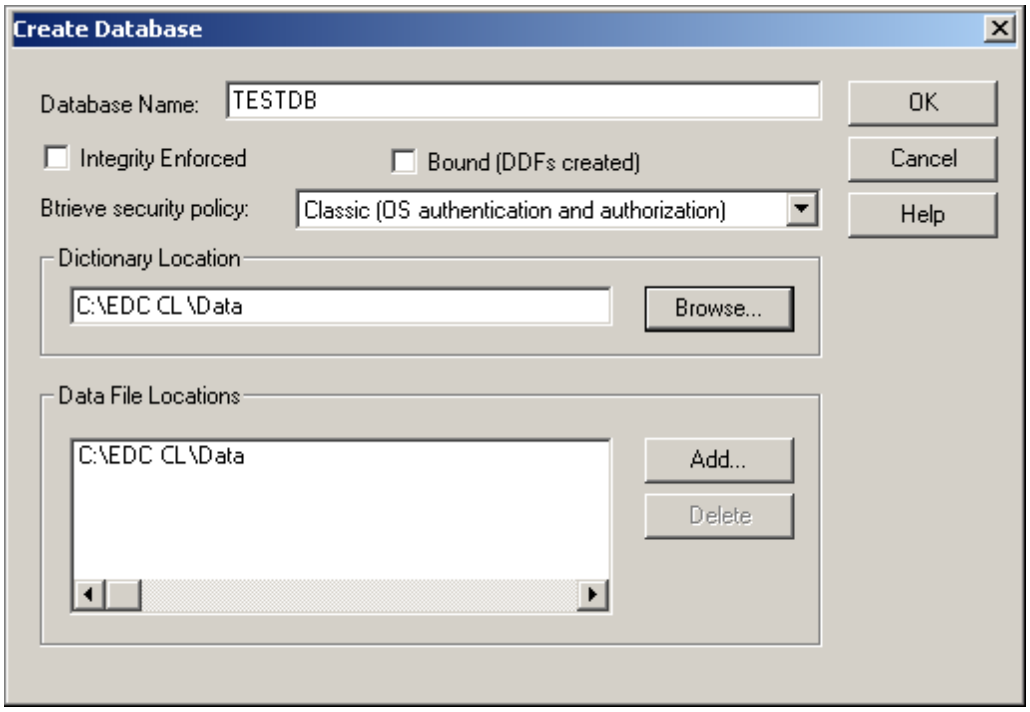
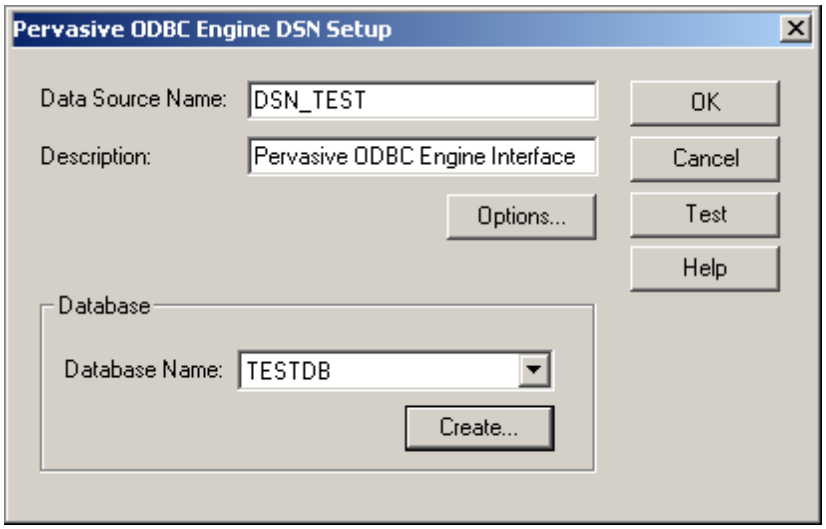



Then press "OK" to close this window. You'll then be brought back to the main DSN setup window like so:




Then test the connection by pressing the "Test" button. If all is well you should see a pop-up window saying your connection is successful like so:

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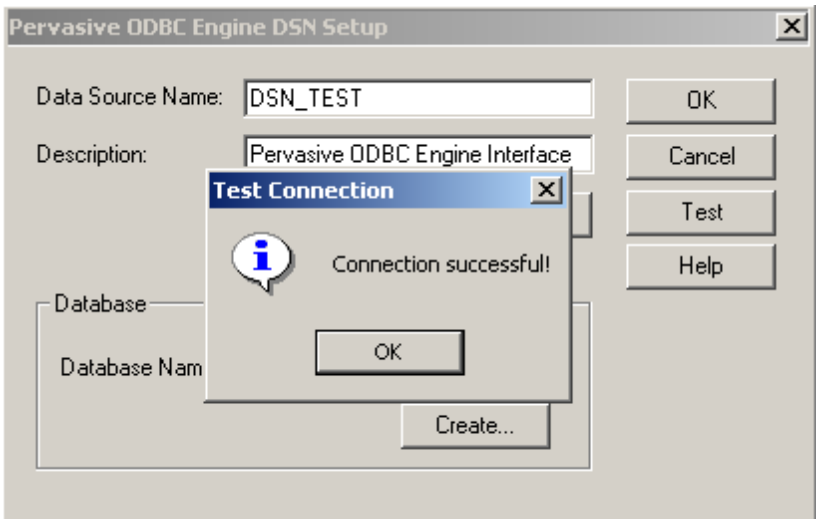
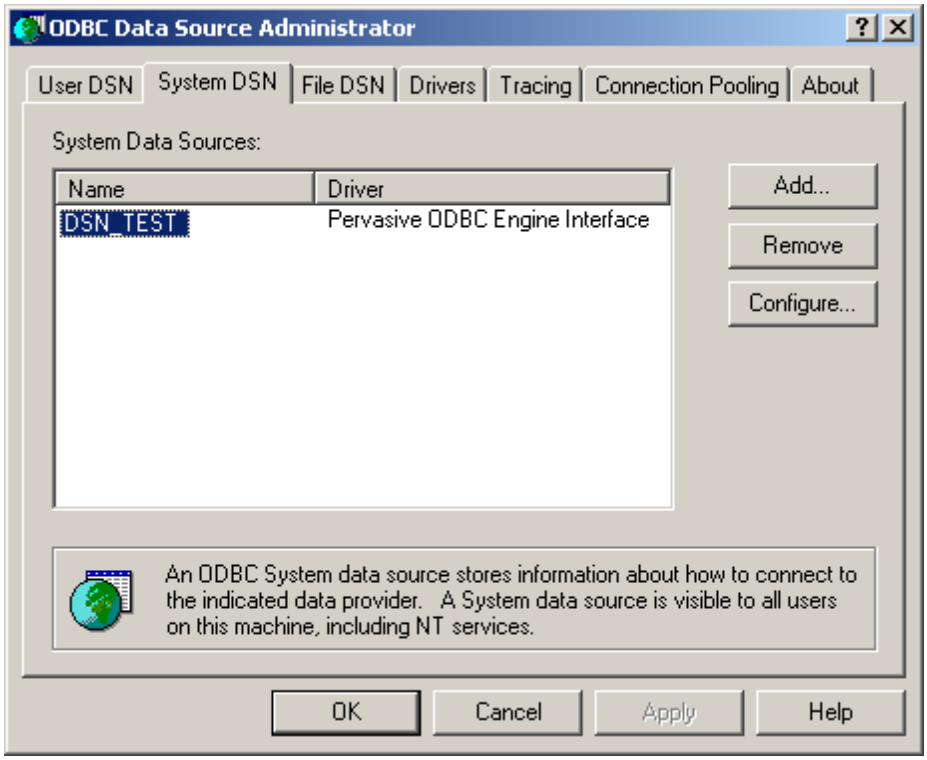



Once this is confirmed you can press "OK" on both windows to close all this. You'll then be shown the main ODBC administrator window with your new DSN listed like such:




**Note:** EDC Client uses the name "EDC_CLIENT" for its DSN name by default and you should not change it. If you do change it you would have to start EDC Client with a special parameter called "dsn" which would supply the name of the new DSN you want to use. Here's an example:

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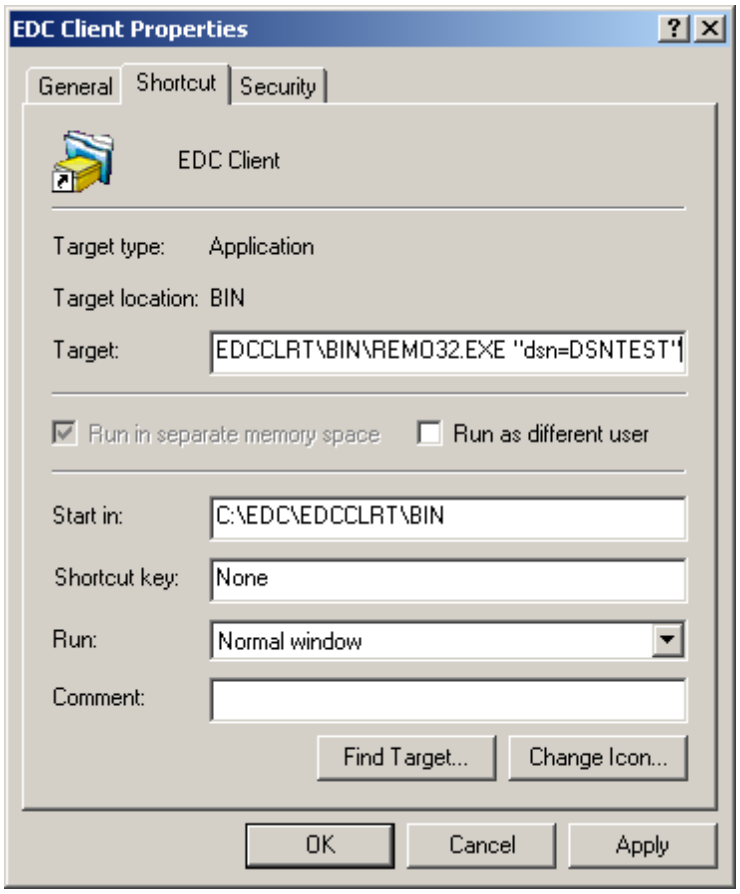


That's it for DSN's!

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## 4.9 Portable Data Terminal (PDT)

Build to collect, display and communicate data, the PDT is used in most of the operations of EDC Client (ex: picking, refiling, moving and delivering items). Three PDT models are supported by EDC: the PDT 3100 (by Symbol), the PHL 2700 (by Opticon) and the PT 630 (by Unitech). The PDTs are also compatible with the O'Neil microflash portable printers.

This section will show how to program, connect and configure those PDT's for use with EDC Client.

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### 4.9.1 Programming the PDT

If your PDT is not already programmed with our software you will need to install our program into it to enable communications between the PDT and EDC Client.

If it is already programmed you can jump directly to the section on how to connect your PDT 159.

Each of the 3 PDT's have different instructions for programming them. Follow the appropriate link below to program your particular model:

- Opticon PHL-2700 156
- Symbol PDT 3100 157
- Unitech PT 630 158

**Opticon PHL-2700**

1. If the AppLoad (Application Loader) program from Opticon is not installed on your workstation, download the application from:

ftp://docudatasoft.com/record_center/PDT/PHL2700/AppLoad.zip and install the application.

2. The PDT must be cold started using the following sequence:

- Power off the unit
- Hold the 0 (zero) and 7, press and release PW button

3. Select 3 Download Application, then chose between cradle or cable interface

**Note: If transferring via the cradle, the dip switches below the cradle must be set as follows:**

1 ON
2 OFF
3 OFF
4 OFF
5 OFF
6 ON

4. From the AppLoad program, Select File | Download, and select the PHL2700EN.S2 (English) or the PHL2700FR.S2 (French) file depending on your language.

The transfer process will begin, and the program will automatically start after the transfer.

If transferring via the cradle when used with EDC, the dip switches below the cradle must be set as follows:

1 ON
2 OFF
3 OFF
4 ON
5 ON
6 OFF

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**Note: If the PDT needs to be restarted, the 0,7,PW boot sequence can be applied, and the Restart option may be selected.**

Your PDT should now be programmed. You can now jump directly to the section on how to connect your PDT 159.

**Symbol PDT 3100**

If you don't have it already, download the PDT3100 package from:

ftp://docudatasoft.com/record_center/PDT/Symbol3100/PDT3100.zip and unzip it to a place convenient for you.

Preparing the PDT:

1. Turn the PDT off.
2. For the 35-key PDT **press and hold** the "SHIFT" and "BK SP" keys simultaneously.
   For the 46-key PDT **press and hold** the "F" and "I" keys simultaneously.
3. **Press and release** the "PWR" key.
4. Release other keys.
5. The PDT boots in "command mode".
6. Ensure the PDT is in the cradle.
7. Select Program loader with the up arrow, and confirm.
8. Set the communication parameters to 19200, 7 data bits, Odd parity, Xon/Xoff flow control.
9. Press "ENTER" to prepare the PDT to receive the firmware.

On the PC:

1. Edit the SendHex.bat(from the zip file you downloaded earlier on) and make sure the last parameter on the line is the COM port number on your computer that the PDT is plugged into. The line should be similar to:

SendHex Wanden 19200 2

This would mean that your PDT is connected to COM 2 at a baud rate of 19200.

2. Run SendHex.bat and press Enter when the PDT is in receive mode.

After the transfer:

1. The PDT must indicate Status 0000.
2. Turn the PDT off.
3. Boot the PDT with:
   - For the 35-key PDT press and hold the "SPACE", "FUNC" and "Up Arrow" keys simultaneously.
   - For the 46-key PDT press and hold the A and B and D keys simultaneously.
4. Press and release the "PWR" key.
5. Release the other keys.
6. The PDT will now boot in the EDC software.

Your PDT should now be programmed. You can now jump directly to the section on how to connect your PDT 159.

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**Unitech PT 630**

1. If the Unitech PtComm program is not installed on your workstation, download the application from:

ftp://docudatasoft.com/record_center/PDT/PT630/PTCommIns.exe

and install the application. Enable Auto Detect Baud rate.

2. The PDT must be booted in admin mode using the following sequence.

- Power off the unit
- **Press and hold** the "CMD" and "left arrow" keys then **press and release** the power button.

3. Select 3 for COLD START and confirm.

4. Boot again in admin mode as described above. Select 1.SUPERVISOR. The default password is 630.

5. Select 7.SYS, 2.PROGRAMMING, 2.DELETE ALL and confirm.

6. Press ESC until back to the menu with the selection 3.MEM and choose this selection.

7. Enter the new EXEC memory at 472.

8. Press ESC to exit to the command prompt.

9. Using the Unitech PtComm program, drag and drop the PT630EN.EXE (English) and/or PT630FR.EXE (French) programs to the PDT as needed.

10. Boot again in admin mode as described above. Select 1.SUPERVISOR, 7.SYS, 2.PROGRAMMING, 1.ADD PROGRAM, press Enter to confirm adding PT630EN.EXE to ROM. Press 1 to confirm deleting program in RAM Disk. Repeat for PT630FR.EXE if needed.

11. Boot again in admin mode as described above. Then select WARM START. At the prompt, type PT630EN for the English version, or PT630FR for the French version.

Your PDT should now be programmed. You can now jump directly to the section on how to connect your PDT 159.

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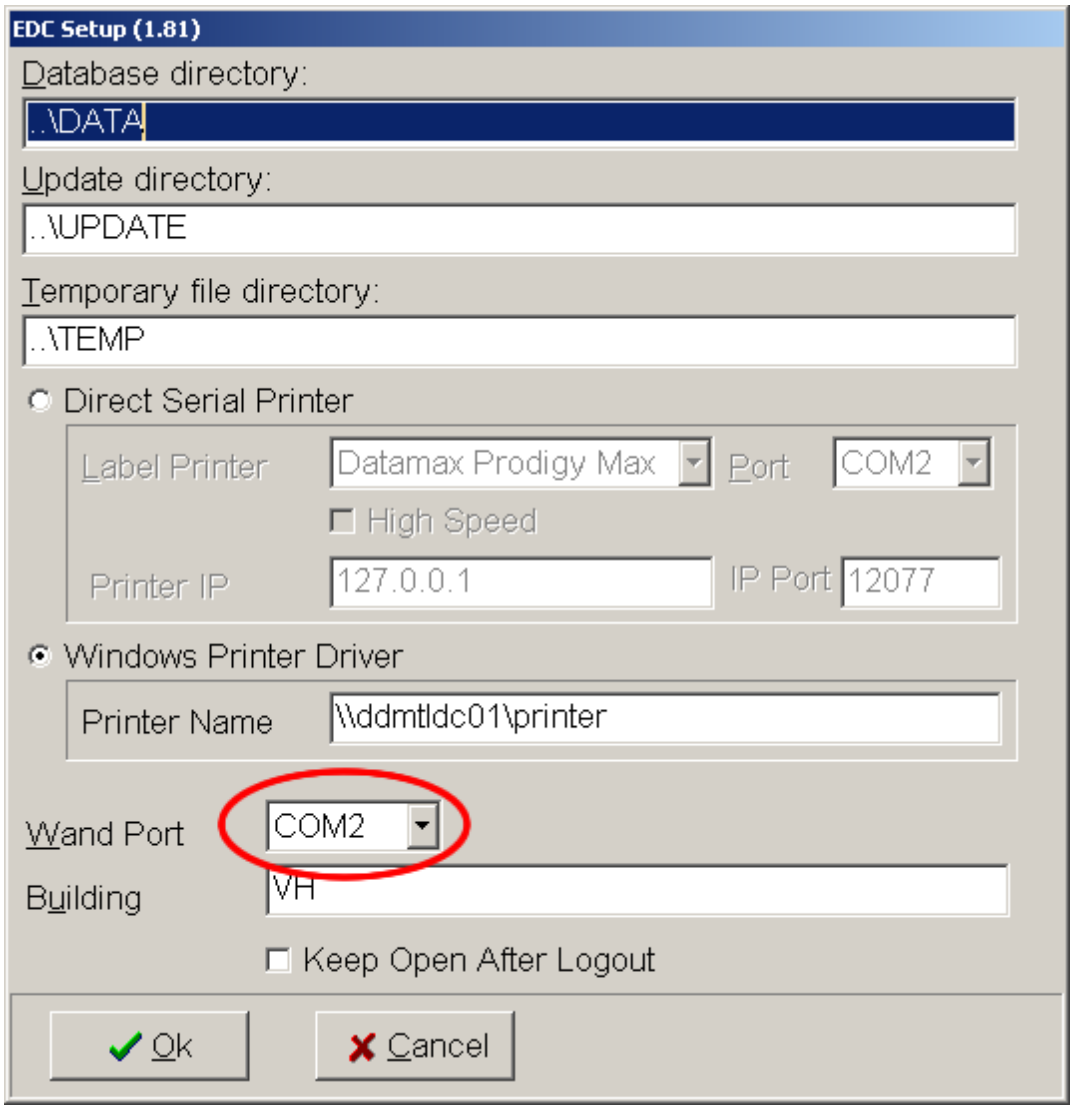
### 4.9.2 Connecting the PDT

Whether your PDT is connected via a cable or a cradle, the principle is the same. You simply need to connect it to a serial port that is usually located on the back of your computer.

Most standard computers nowadays come with at least 2 com ports "COM1" and "COM2". Refer to your computer's documentation to know which is which.

Once plugged in, you need to tell EDC what port it is on by specifying it in the dc.cfg file. To do this you open the file "dcsetp32.exe" located in the "bin" folder of your installation. Once opened you'll see a window like so:




This is where you specify the COM port of your PDT for use in EDC Client.

That's it for connecting the PDT to your computer. Now let's configure the PDT 160 with EDC Client so it can be ready for some real work.

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### 4.9.3 Configuring the PDT

**********

Note: Before you can configure the Opticon PHL-2700 PDT with EDC Client you need to make sure it is set to communicate via cable or cradle depending on your particular setup. To verify this you:

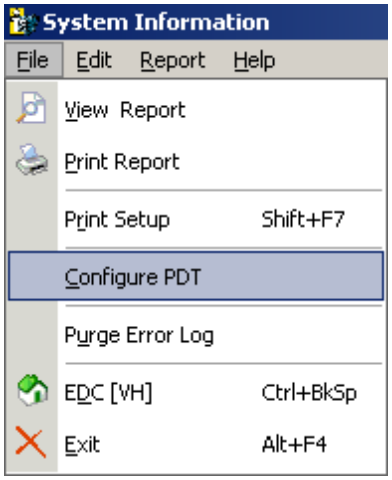
1- Power up the PDT
2- Press option # 4 (Utilities)
3- Press option # 5 (Cable/Cradle)
4- Choose 1.Cradle or 2.Cable as appropriate for your setup.

**********

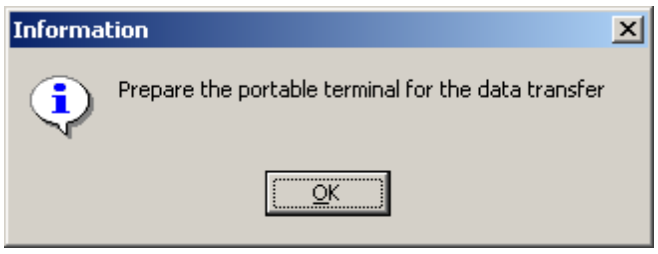
**Note: The procedure for configuring the PDT is the same for all PDT models AND the two pre-requisite steps "Programming the PDT" 156 and "Connecting the PDT" 159 are assumed to have been done at this point.**

**To configure your PDT with EDC Client follow these steps:**

1. Open EDC Client, go to the "Management" tab and then open the "System Information" module.
2. In System Information go to "File -> Configure PDT".




A window will open like so telling you to prepare your PDT for the data transfer(do NOT press the OK button just yet or the transfer won't work!):




3. Put your PDT in receive mode by pressing # 1 (Receive) on your PDT.

4. Now you can press the OK button to start the data transfer.

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5. Once the transfer is done you should see the message "Transfer Complete" on your PDT.

That's it! Your PDT is now configured and ready to work in EDC Client. Congratulations!

This concludes the section on PDT's.

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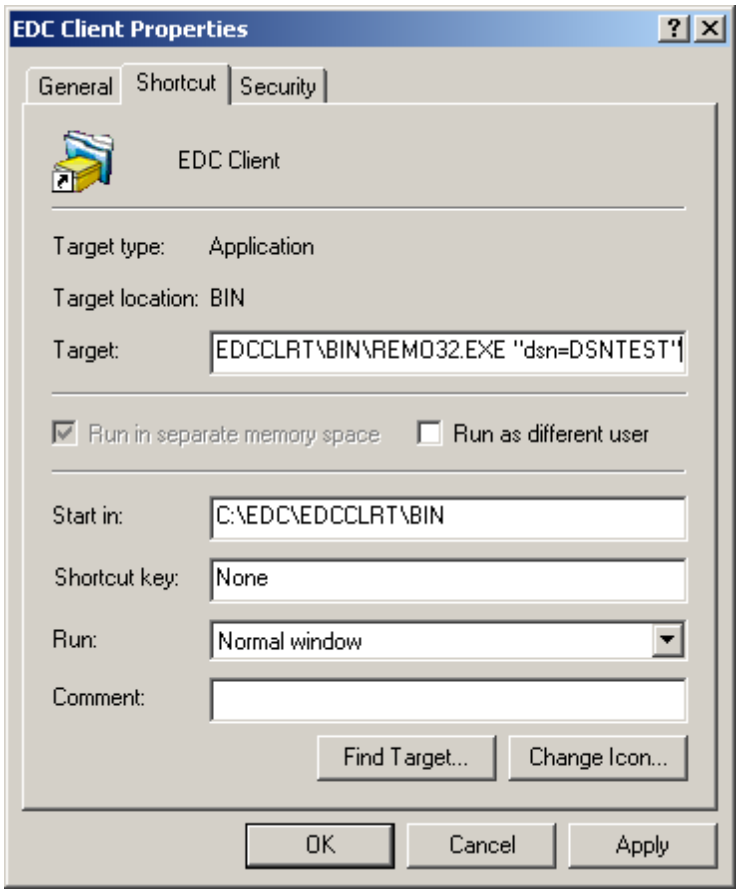
## 4.10 SQL Reports

All reports in EDC Client are done internally via SQL statements. The reporting module uses ODBC drivers to connect to the EDC Client database and therefore needs to have a DSN setup in order to function. When EDC Client is first installed it automatically creates a DSN entry(by default it is called "EDC_CLIENT") for the report module so you don't usually need to set one up yourself.

If for any reason you wish to make one from scratch, refer to the section "Data Source Names(DSN) and ODBC" 149 in this manual.

In the event that you decide to use another DSN name, you would have to start EDC Client with a special parameter called "dsn" which would supply the name of the new DSN you want to use. Here's an example:




This concludes the section on reports.

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# 4.11 Access Management

## 4.11.1 Controlling Access With DcLock32

This application(dclock32.exe) is normally used for three(3) different reasons:

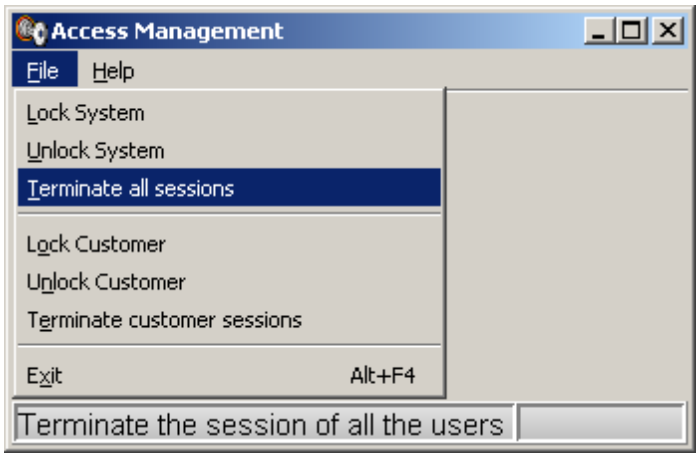
**Note1: You can find the dclock32.exe program in the "bin" folder of your EDC Client installation.**

**Note2: Specific users (either at the record center or at a client's site) can have access to this program. To set up these users go in the Customer (for a client) or Management (for an employee) section -> User Group | Employee Group or Authorized user | Employee -> Edit -> Edit, add the "Access Management" module to their list of accessible modules.**

**1- Terminate a customer and/or an employee's regular or locked sessions**

A session is usually locked by the system when a computer crashes during an operation and the number of users has been exceeded when a new session is opened. In this case the user cannot log back into EDC.

To remedy this situation open dclock32.exe and go "File -> Terminate all sessions" or "File -> Terminate Customer sessions" like such:




The one you choose depends on if you want to terminate all the sessions including the employees sessions or just a specific customer session. This will in effect terminate both active sessions and old locked sessions from a previous crash etc..

**Note:** Often the session is not entirely locked, only one module cannot be accessed(but you can log into the system). In this case, one can unlock operations in the System Information module like so:

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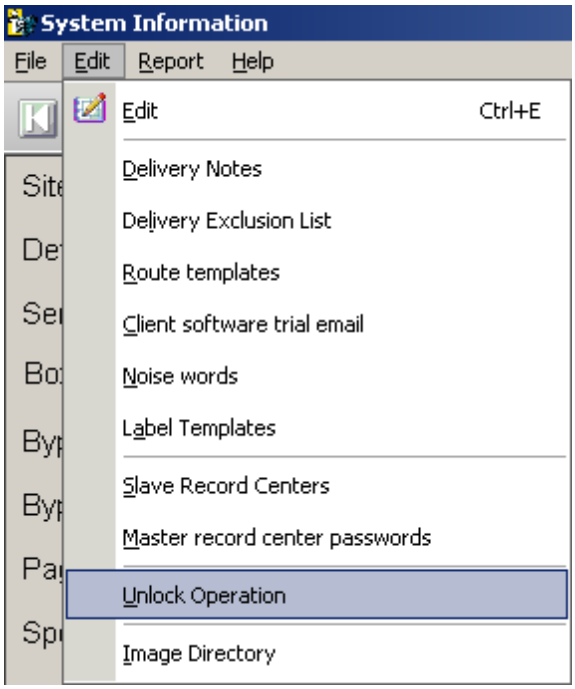


**2- Lock & Unlock customers**

If you want to lock or unlock access to EDC for a specific customer temporarily without having to change his login information you simply open dclock32.exe and go "File -> Lock Customer" or "File -> Unlock Customer" as required.

**3- Lock & Unlock the whole EDC system**

Another reason to use dclock32 is if you want to lock or unlock access to the whole EDC system for everybody. This is usually done for maintenance reasons(updating EDC?) to make sure no one logs into the system while the maintenance is being performed.

To do this simply open dclock32.exe and go "File -> Lock System" or "File -> Unlock System" as required.

This concludes the section access management.

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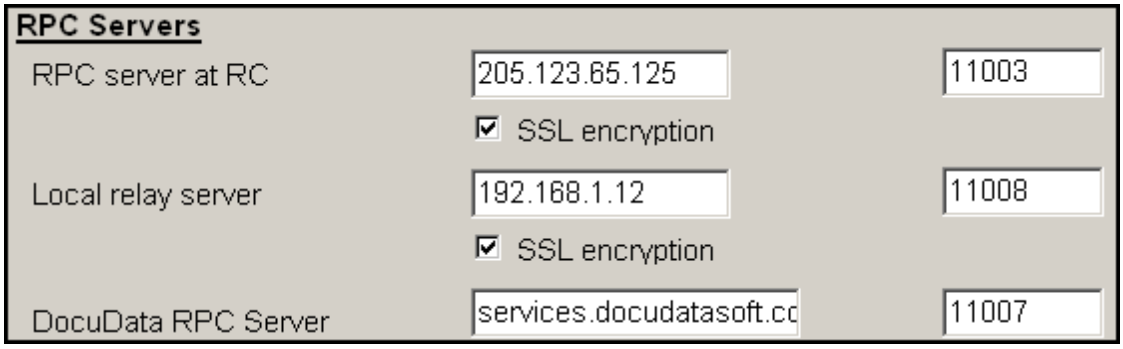
## 4.12 Security

Because security is always a concern when networks are connected to the internet, EDC Client enables you to transmit your communications from and to it using SSL encryption. To enable SSL encryption in EDC Client just make that the SSL checkbox in the system information module is ticked. Here's a screenshot to illustrate:




**Note: The RPC server on the RC side needs to be setup with the same SSL settings as the client or else communication will fail.**

Also be aware that outgoing TCP ports 11003 and 11007 need to have access to the internet so firewall rules must be in place in your organization to allow outgoing traffic on these ports.

This concludes the section on security.

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## 4.13 Backup & Restore

This section will show you how to backup and restore of your EDC Client installation. You will be shown how to do this both for operations that have a down time period and those who don't (24hours/day, 7 Days/week non-stop operations).

The 24hours non-stop backup and restore operation is called "Continuous Operations". If this is what you are looking for you can jump straight to the topic by going here 169. The next section talks about the normal backup & restore procedures.

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### 4.13.1 Normal Backup & Restore Procedures

This procedure is based on the fact that your operations are not always continuous 24hours/day. If this is not your case and you operate 24hours/day then refer to the next section entitled "Continuous Operations" 169.

**Note: Pervasive has some special settings that could be useful/important for backup & restore operations. Of special interest to normal backups is the Pervasive feature called "Archival Logging" which you should consider when doing a normal backup. Whether you backup & restore in normal or continuous operations mode you should definitely have a look at their documentation to insure all the proper steps are taken when doing your backup & restore operations. Here's some links for this:**

Pervasive 8.x documentation:

http://www.pervasive.com/library/docs/psql/870/advops/advops-09-1.html

Pervasive 9.x documentation:

http://www.pervasive.com/library/docs/psql/910/advops/advops-09-1.html

**Backup Steps**

1. Make sure no one is using EDC Client
2. Shut down any EDC Client services or processes that may be running
3. Shut down all Pervasive engines (Transactional & Relational)
4. Backup your EDC Client installation folder on a medium appropriate for you (FTP, CD/DVD, Tape drive etc..).

Note: On some installations, the "data" folder can be located in a different directory or machine than your executables(bin folder). So just make sure you back it up as well if this is the case because a back up without the "data" folder is in essence **NO BACK UP AT ALL**.

**Just make sure that the backup is NOT stored on the same hard disk as your original EDC Client installation because in the event of a disk failure you could loose everything which in some instances could mean your whole business as well.**

How to perform the actual backup is reserved for you to decide "how". Many utilities on the internet already exist to perform backups and so it's not up to DocuData to decide for you which way to go on this matter. The most primitive way would be to do a simple "copy & paste" of your installation folder on the medium of your choice.

5. Restart your Pervasive and EDC Client services.

Your back up is now done!

**Restore Steps**

1. Make sure no one is using EDC Client
2. Shut down any EDC Client services or processes that may be running
3. Shut down all Pervasive engines (Transactional & Relational)
4. Restore(copy back) your EDC Client installation folder from your backup medium to its original location.

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5. Restart your Pervasive and EDC Client services.

Your restore is now complete!

The next section shows you how to do your backup & restore when you have no down time (24hours/day operations).

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### 4.13.2 Continuous Operations(Live Backup)

This procedure is based on the fact that your operations are always continuous 24hours/day. If this is not your case and you don't operate 24hours/day then refer to the previous section entitled "Normal Backup & Restore Procedures" 167.

**Note: Continuous operations is a Pervasive feature(not an EDC feature) that lets you backup your database files(not your EDC Client executables) while they are in use so you do need to read Pervasive's documentation on this to understand how it operates. Here's some links for this:**

Pervasive 8.x documentation:

http://www.pervasive.com/library/docs/psql/870/advops/advops-09-5.html

Pervasive 9.x documentation:

http://www.pervasive.com/library/docs/psql/910/advops/advops-09-5.html

Once you have read the Pervasive documentation above you can go ahead and backup and restore your EDC Client installation with the following steps:

**Backup Steps**

1. Use the "BUTIL -STARTBU <sourceFile | @listFile>" command as described in the Pervasive documentation above.
2. Backup your EDC Client installation folder on a medium appropriate for you (FTP, CD/DVD, Tape drive etc..).

Note: On some installations, the "data" folder can be located in a different directory or machine than your executables(bin folder). So just make sure you back it up as well if this is the case because a back up without the "data" folder is in essence **NO BACK UP AT ALL**.

**Just make sure that the backup is NOT stored on the same hard disk as your original EDC Client installation because in the event of a disk failure you could loose everything which in some instances could mean your whole business as well.**

How to perform the actual backup is reserved for you to decide "how". Many utilities on the internet already exist to perform backups and so it's not up to DocuData to decide for you which way to go on this matter. The most primitive way would be to do a simple "copy & paste" of your installation folder on the medium of your choice.

3. Use the "BUTIL -ENDBU </A | sourceFile | @listFile>" command as described in the Pervasive documentation above.

Your back up is now done!

**Restore Steps**

1. Make sure no one is using EDC Client
2. Shut down any EDC Client services or processes that may be running
3. Shut down all Pervasive engines (Transactional & Relational)
4. Restore(copy back) your EDC Client installation folder from your backup medium to its original

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location.
5. Restart your Pervasive and EDC Client services.

Your restore is now complete!

This concludes the section on backup & restore.

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## 4.14 Command-Line Parameters

Below is a listing of all command-line parameters, what they mean and with which executables they belong. Unless otherwise noted, the command-line parameters always have the form "parameter=value" so for example, starting the networklogin parameter would be written like "networklogin=yes".

Note: If you want to know what a particular executable is or what its function is you can refer to the section entitled "EDC Client Component Listing" 177 later in this guide for an explanation.

Note: Parameters that have a "yes" or "no" as their possible values **use the "default" value** indicated below if the parameter is not mentioned when starting the executable.

| Parameter | Possible values | Meaning | Executables |
|---|---|---|---|
| networklogin | yes or no<br>(default value is "no") | Enables you to use your windows login name to login into EDC, bypassing the EDC login screen. | docu32.exe<br>remo32.exe |
| cfgfile | Path to dc.cfg file | Indicates the location of the configuration file used for the executable | docu32.exe<br>remo32.exe<br>dclock32.exe<br>edcrpc.exe<br>edcclrpc.exe<br>imgser32.exe<br>licens32.exe<br>ordcheck.exe<br>ordmon32.exe<br>replicator.exe<br>thermalprintserver.exe<br>update.exe |
| servicename | Any name you want as long as there is no space AND none of these characters in the name:<br>**\ / : * ? " ' < > \|**<br>Usually it is preferable to start the service name with EDC to easily differentiate them from other windows services. | Gives an alternate name to the service instead of using the default built-in name of the service. | edcrpc.exe<br>edcclrpc.exe<br>imgser32.exe<br>ordmon32.exe<br>replicator.exe<br>thermalprintserver.exe |
| portno | Any port number above 1024 | Assigns an alternate port number for the executable to communicate on instead of using the default built-in port for the service. | edcrpc.exe<br>edcclrpc.exe<br>imgser32.exe<br>replicator.exe |

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| | | | |
|---|---|---|---|
| ssl | yes or no<br>(default value is "no") | Indicates whether or not SSL encryption will be used to communicate with the executable. | edcrpc.exe<br>edcclrpc.exe<br>replicator.exe |
| replicationinterval | A number indicating the number of minutes between replications | Defines the number of minutes between replications | replicator.exe |
| start | A time in the 24H format<br>(example -> 22:30) | Defines at what time the replication process should start every day. | replicator.exe |
| stop | A time in the 24H format<br>(example -> 22:30) | Defines at what time the replication process should stop every day. | replicator.exe |
| threadindex | yes or no<br>(default value is "yes") | Dictates if the application will be "indexing" or not the modified information from the box and file modules for full text searches. | docu32.exe<br>remo32.exe |
| threadrecipient | yes or no<br>(default value is "yes") | Dictates if the application will be "indexing" or not the newly added order recipients for the auto-fill ordering feature. | docu32.exe<br>remo32.exe |
| exportddf | yes or no<br>(default value is "no") | When set to "yes" this option locks the database DDF files (hides some tables in the db). This parameter is usually used after a troubleshooting session that needed to have some tables unlocked for the troubleshooting process. | docu32.exe<br>remo32.exe |
| rcrpchost | IP Address or URL of machine running edcrpc.exe | Used to connect edcclrpc.exe to edcrpc.exe.<br>This option is needed by the executable ONLY if the edcrpc.exe is not located on the same machine. | edcclrpc.exe |
| rcrpcportno | Port number that edcrpc.exe | Used to connect edcclrpc.exe to | edcclrpc.exe |

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| | | | |
|---|---|---|---|
| | communicates on | edcrpc.exe.<br>This option is needed by the executable ONLY if the edcrpc.exe is not located on the same machine. | |
| rcrpcssl | yes or no<br>(default value is "no") | Used to connect edcclrpc.exe to edcrpc.exe.<br>This option is needed by the executable ONLY if the edcrpc.exe is not located on the same machine. | edcclrpc.exe |
| new | No other values needed | Use this option to create a new empty dc.cfg file. Usage is like so:<br>dcsetp32.exe new | dcsetp32.exe |
| setimagedirectory | Path to Image directory<br>**Note that this parameter has no delimiter between itself and its value**.<br>Here's a usage example:<br>"setimagedirectoryC:\images" | This option is used only if you want to override the image directory setting from the system information module.<br>This is rarely used. | docu32.exe<br>remo32.exe |
| setedmdirectory | Path to main EDM directory<br>**Note that this parameter has no delimiter between itself and its value**.<br>Here's a usage example:<br>"setedmdirectoryC:\edm" | This option is used only if you want to override the EDM directory setting from the system information module.<br>This is rarely used. | remo32.exe |
| setuserworkdirectory | Path to User's work directory. The User's system number from the RC side needs to be included as well.<br>Usage example:<br>setuserworkdirectory ('user system # ', ' Path to work directory') | This option is usually used to override the user's working directory set in the Authorized User module.<br>Rarely used. | remo32.exe |
| importdescfile | Path to import | Usually used when | docu32.exe |

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| | | | |
|---|---|---|---|
| | description file and its log file. Usage is as follows: importdescfile('path to import file', 'path to log file') | doing importation from a batch file or something similar. The same operations are usually done from within EDC itself. | remo32.exe |
| emaillog: | [email address]: [number of past days] example: a@a.com:2<br><br>So in this example, a@a.com would be emailed the error log from the last 2 days (NOT including today) | This option is used to have the EDC error log being automatically emailed to you. | docu32.exe<br>remo32.exe |
| imageimportfolder | Path to image folder to import. The image folder needs to be named according to the import convention. Refer to the EDC Client User's Guide for more information on this. | Used to automatically import images when the executable is launched. This option is usually used in conjunction with the "imageimportlog" option below(but optional). | docu32.exe<br>remo32.exe |
| imageimportlog | Path to where you want the log file to be created. | This option is usually used with the "imageimportfolder" option above but is optional. It defines where the import process will store the log file of the import. | docu32.exe<br>remo32.exe |
| CreateEDMUserFolders | No other value required | This option creates EDM user's directories for all users defined in the Authorized Users module. This is usually only used when first setting up the application. Rarely used. | remo32.exe |

This concludes the section on command-line parameters.

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## 4.15 Default Port Numbers

EDC servers processes have some default ports associated with them. You will find this information here 61.

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## 4.16 Uninstalling EDC Client

Uninstalling EDC Client can have serious consequences for your business if not done properly. Therefore we recommend that you DON'T attempt an uninstall by yourself. Instead give a call to our support team for assistance at 1-877-789-2789 (Calling from North America) or +1(514)789-2789 (Calling from anywhere else in the world).

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## 4.17 EDC Client Component Listing

This is a list of applications used by EDC Client to perform specific tasks. All these executables are located in the "bin" folder of your EDC Client installation.

CUSTWEB.EXE : **This application is now deprecated in favor of our new web application called ActiveWeb.**

DCLOCK32.EXE : This application is normally used when one needs to unlock locked sessions. A session is usually locked by the system when a computer crashes during an operation and the number of users has been exceeded when a new session is opened. This application can also be used to lock access to the whole EDC system or specific users from accessing it.

DCSETP32.EXE: This application is used to modify the DC.Cfg file (this is the configuration file that points out the Data, Update & Temporary directories of EDC Client plus some additional printer and PDT settings).

DIMP32.EXE : This application is used when one needs to update the dictionary used by EDC (this is specifically for the fields and the menus of the software). The data of the dictionary is stored in a file called "String.dat" in the data directory.

EDCCLRPC.EXE: This is a server program that will be used with the upcoming ActiveWeb software. ActiveWeb is to EDC Client what ActiveWeb is to EDC Client.

EDCMONITOR.EXE: This application monitors the dispatcher program. It verifies if new changes were done in EDC and sends them to another program (specific to one of our clients).

EDCREP32.EXE : **This application is now deprecated in favor of our new replication process (replicator.exe).**

EDCREQIP.EXE : **This application is now deprecated in favor of our new replication process (replicator.exe).**

EDCSER32.EXE : **This application is now deprecated in favor of our new replication process (replicator.exe).**

EDCSERIP.EXE : **This application is now deprecated in favor of our new replication process (replicator.exe).**

EDCSHL32.EXE : This application launches other EDC programs. Usually the launcher runs the following programs: imgser32.exe, replicator.exe, edcrpc.exe.

IMGSER32.EXE: This application is an image server, that is used for digital imaging.

LICENS32.EXE: This program allows installing the license for the software. Works with both RC and Client version. For example, if the client wants to increase their number of users, or move from the SA to SAI version of the software, the license we give them will be entered in this program.

ORDCHECK.EXE : This application is responsible of informing you when the Order Monitor (ORDMON32.EXE) is not working.

ORDMON32.EXE : This application monitors incoming orders and notifies the record center's personnel when rush orders are entered.

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REMO32.EXE: This is the main application that starts EDC Client.

THERMALPRINTSERVER.EXE: Program that allows configuring in DcSetp32.EXE a thermal printer that is installed on a specific machine identified by an IP address.

UPDATE.EXE: This application is used when updating the software.

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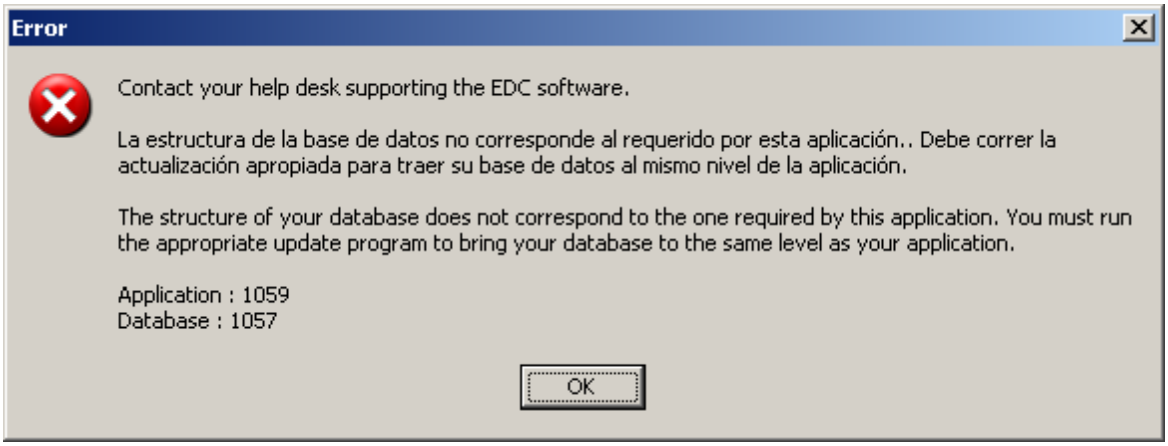
## 4.18 Troubleshooting

This section will guide you in what to do when some known problematic situations arise. Refer to the relevant links below for more information on how to proceed.

Mismatched application and/or database level warnings 179
EDC, ActiveWeb and Pervasive error log files 179

**Mismatched application and/or database level warnings**

If you ever get a warning window similar to this:


Error
Contact your help desk supporting the EDC software.
La estructura de la base de datos no corresponde al requerido por esta aplicación.. Debe correr la actualización apropiada para traer su base de datos al mismo nivel de la aplicación.
The structure of your database does not correspond to the one required by this application. You must run the appropriate update program to bring your database to the same level as your application.
Application : 1059
Database : 1057
OK

Here's how you can remedy to this situation:

**Note: We highly recommend that you backup your installation of EDC Client before attempting any updates like this one.**

1. Obtain the database level update file from us by contacting support@docudatasoft.com

**Note: The name of the update file has the level update number in it so in the example above you would receive a file called "cl001059.exe"**.

2. Put the update file in the "bin" folder of your EDC Client installation.
3. Run the file and follow the instructions on the screen.

Your database is now to the same level as your application and can function properly.

Although very unlikely, the opposite error message can also appear (database level above the application level). If this situation occurs contact us by email at support@docudatasoft.com for help.

**EDC, ActiveWeb and Pervasive error log files**

Usually most error events get logged in log files. These log files can come in very handy when troubleshooting a problem. You will also find that most of the time when you contact us for support we will ask you for those log files.

Here is a listing of the error log files that are important for troubleshooting or debugging purpose and where to find them:

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| Log File Name | Where To Find It |
|---|---|
| Main EDC Client error log(no name) | From the main window of EDC Client you browse to the menu<br>Help -> View Error Log |
| edclog.txt<br>(only information that couldn't get logged in the main error log file gets logged here. This usually happens when a connection to the database couldn't be established) | Located in the windows folder<br>For Windows 98, XP and Server2003:<br>C:\Windows<br>For Windows 2000: C:\WINNT |
| Main Replication Log(no name) | From the "Box and File Maintenance" module of EDC Client(Maintenance Tab) you browse to the menu<br>File -> Replication Log |
| edcreplog.txt<br>(only information that couldn't get logged in the main replication log file gets logged here. This usually happens when a connection to the database couldn't be established) | Located in the windows folder<br>For Windows 98, XP and Server2003:<br>C:\Windows<br>For Windows 2000: C:\WINNT |
| pvsw.log(Pervasive Error Log) | Located in the windows folder<br>For Windows 98, XP and Server2003:<br>C:\Windows<br>For Windows 2000: C:\WINNT |
| admin, host-manager, jakarta_service, stout, stderr, localhost, catalina & manager log files<br>(you might not have every one of them available all the time)<br>These are the log files of Tomcat needed during troubleshooting sessions of ActiveWeb | These are located in the "logs" folder of Tomcat which in a standard installation can usually be found in:<br>C:\Program Files\Apache Software Foundation \Tomcat 5.5\logs |

This concludes the section on troubleshooting.

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